

# THE COMMERCIAL REVIEW

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J. D. B. DE BOW, EDITOR AND PUBLISHER.

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## TABLE OF CONTENTS.

### ARTICLES.

- I. SUGAR.—Cane Sugar—Its Physical and Chemical Properties—Action of re-agents upon—Molasses—Treacle—Anatomy and Physiology of the Cane—Composition of Cane-Juice—Changes produced upon it by re-agents—Alterations produced during the life of the plant.  
By DR. EVANS, of London (continued). 163
- II. BRITISH AMERICA.—Extent of British America; Progress of Liberal Principles; Destinies; Upper and Lower Canada; New-Brunswick; Nova Scotia; Newfoundland; New Britain, etc.  
By STEPHEN F. MILLER, Esq., of New-Orleans. 181
- III. VINE CULTURE AT THE SOUTH.—Wines in Carolina; Mississippi Wine; Grape Culture; Profits per acre. By J. NOYES, of Natchez. 200
- IV. CALIFORNIA, NEW-MEXICO, AND THE PASSAGE BETWEEN THE ATLANTIC AND PACIFIC OCEANS.—Letter of Lieutenant Maury; Col. Fremont; Vallies of the Sacramento and San Joaquin; Bay of San Francisco and dependent country; New-Mexico. 204

### SOUTHERN CITIES.

1. Health of Charleston; Comparative Health of Northern and Southern Cities, - - - - - 226
2. Savannah, - - - - - 228
3. Mobile and Progress of Alabama, - - - - - 229
4. Houston, Texas, - - - - - 230
5. St. Louis, - - - - - 230
6. New-Orleans in Midsummer, - - - - - 231

### MISCELLANIES.

1. Patent Office of our Home Statistics, - - - - - 233
2. Smithsonian Institute, - - - - - 234
3. The Insane of the United States. - - - - - 234
4. Editor's Arm-Chair, - - - - - 235

THE LIGHT OF OTHER DAYS. By the Editor and Proprietor, - - - 236

## TO OUR SOUTHERN AND WESTERN FRIENDS.

It is always unpleasant to talk about fiscal matters with our friends, but they must excuse us from the very necessity of the thing. This hard, harsh world, brushes off some of our nice susceptibilities, do what we will.

Some three years ago we instituted the *Commercial Review*, the first work of the kind ever attempted in the Southern or Western States, and but the second in the whole Union. The idea was novel, and every one predicted its inevitable failure. Our faith, however, was strong, though the discouragements were legion.

We have gone on, and no one has lost a dollar by us. From every section of the Union, the highest and the most flattering possible testimonials have been paid to the character and usefulness of the work.

But what have the Editor and Publishers realized from the three years of unremitting toil? Literally nothing!

At the present moment there remains due to the publication *Eight Thousand Dollars*, by subscribers who have received the work regularly, who are in general men of means, and who would scorn as evidence of utter pettiness any high appreciation of a *Five or Ten Dollar* note. Six hundred of these subscribers are indebted for one year. Three hundred for two years, and fifty for three years!

Alas! that we cannot say of these as King Lear of old said of the winds and the storms,

"You owe me no Subscription."

Now these gentlemen, from inattention or carelessness, or what you will, do themselves and us great injustice. We are crippled at every step; obliged to curtail our expenses and economise, notwithstanding a desire of the utmost liberality in improving, embellishing and illustrating a work which is for *their benefit*, and we fondly hope for our whole region. *Eight Thousand Dollars* in our hands, and what could we do with it! And yet why should we not have it—why? Have we not had to pay out of our own pocket for the printing, the paper, the binding, the writers, the clerks employed upon the books which have been sent to you from month to month, in the abiding confidence that you would sacrifice everything rather than we should lose one cent. Nor is that confidence yet gone. We have had to contract debts and borrow money frequently ourselves. Let us appeal to you, gentlemen, one and all, who are indebted to the *Review*; come forward to a man, and by the next mail send us the *pittance* that remains due, even if it must be borrowed from a friendly neighbor. Such liberality would be worthy of you, and of the cause in which we are engaged.

But more than this. We desire the liberal co-operation of our subscribers, who we believe are all our friends, in enabling us to build up the work to the highest perfection. We wish their correspondence, and whatever facts may be within their possession, illustrating any of the various subjects upon which we are employed. It is in their power to impart much. They have all an influence, too, with their friends and neighbors, and each could secure, without difficulty, the subscription of one or two to our enterprise. By showing the numbers and urging the cause they must succeed. Many have already done this, and merited our lasting gratitude. Will others remember us?

*The Merchants* have in the *Review*, carefully compiled and digested, all the statistics of the trade and commerce of our own and other countries, and a mass of matter upon every subject interesting to general trade, or that especially of the *South*. We have labored for the merchants. We have urged their claims in the University, and the establishment, for the first time, of a *Commercial Professorship*. The lectures of that chair will all be published in the pages of the *Review*. If one in one hundred of Southern merchants alone encouraged us, what success would be ours!

*The Cotton-Planters* find in the *Review* everything, from any source from home or abroad, that can relate to or affect their great staple, either in the fields, in the warehouse or the manufactory. Alas, did even one in a thousand of them throughout Virginia, the Carolinas, Tennessee, Mississippi, Georgia, Louisiana, Alabama, Florida, Texas, appreciate and sustain the work!


*The Sugar-Planters*.—Since the *Review* has begun, we have published a thousand pages relating to sugar, from the most practical planters, chemists, manufacturers, where nothing had ever before been published in this country. We are now publishing in the *Review*, and will complete this year, the great work entitled the

### SUGAR-PLANTERS' MANUAL. BY DR. EVANS, OF LONDON.

This has lately appeared in England, and the three or four copies that reached New-Orleans sold for \$4 50 in boards. There are 1500 or 2000 sugar planters in Louisiana and Texas, and of these perhaps 300 are our subscribers. Should they not all have Dr. Evans' work, to say nothing of the *Review* and its abundant other matter?

*Our Bound Volumes*.—Finally: We have sets of the *Review* from the beginning, January 1846, handsomely bound and re-printed at great expense. They embrace complete statistical records interesting to merchant, citizen, statesman, sugar-planter, cotton-planter and farmer, and we solicit orders from all. Every subscriber should have the work complete. We will supply numbers to make up sets, and have them bound at cost.

We have made arrangements to *enlarge* the *Review* nearly one third after this number, and otherwise greatly add to its interest and value.

 Please distribute the enclosed Circulars.

# THE COMMERCIAL REVIEW.

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## Art 1.—SUGAR.

CANE SUGAR—ITS PHYSICAL AND CHEMICAL PROPERTIES—ACTION OF RE-AGENTS ON—MOLASSES—TREACLE—ANATOMY AND PHYSIOLOGY OF THE CANE—COMPOSITION OF CANE-JUICE—CHANGES PRODUCED UPON IT BY RE-AGENTS—ALTERATIONS PRODUCED DURING THE LIFE OF THE PLANT.

THE substance, the nature and properties of which it is our purpose to investigate in the present chapter, is the one denominated by chemists cane sugar, or crystallizable sugar. It is the ordinary sugar of commerce.

The presence of this non-azotised proximate principle is not confined to the sugar-cane, as the name usually given it would indicate, although it was from this source alone that Europe was supplied with it for many ages; but it is likewise found in the stalks of many grasses, particularly in those of the maize and guinea-corn, in the roots of the carrot, beet, &c., in pumpkins and melons, in the sap of the palm, and in most of the tropical fruits, from all of which, and also from other sources, it has been obtained by the chemist; but the sugar-cane, the Silesian beet-root, the sugar-maple, and the palm, are the only plants resorted to for this purpose by the manufacturer.

From whatever plant it may have been obtained, cane sugar, when separated from its accompanying impurities by a process of refining, is physically and chemically identical. Although, when in that state of admixture with other foreign substances that constitutes what is called moist or muscovado sugar, its origin is readily recognized.

Cane sugar, when pure, is solid, transparent and colourless. It crystallizes from its watery solution in oblique rhomboidal prisms; but if to the solution certain foreign matters be added, as alcohol for instance, the form of the crystals is very much modified. When bruised in the dark, it is seen to possess phosphorescent properties, and becomes luminous.

It is soluble in one half of its weight of water at the temperature of 60°, and in one fifth of its weight at the boiling point. It is

sparingly soluble in alcohol when cold, but boiling alcohol will dissolve one-fifteenth of its weight which it deposits on cooling.

The specific gravity of *anhydrous* cane sugar is calculated at 1600, that of water being 1000; but as in its natural condition it always contains water in combination, and, moreover, as it is found that sugar, when dissolved in water, undergoes an augmentation of volume of about one-fifteenth of its original bulk, the density of its solutions is much less than the above figures would lead us to expect. The *apparent* density of sugar differs much, owing to a variety of causes. Thus the refined sugars of France are much more loose and spongy in texture than those which have been refined in this country, and therefore they appear to possess a lower specific gravity; but these qualities are given to them expressly to suit the wishes of the respective customers.

It has been already stated, that the composition of cane sugar consists of 12 atoms of carbon, 10 atoms of hydrogen, and 10 atoms of oxygen, combined with 1 atom of basic water, which is displaced when the sugar enters into combination with other bases. The atomic weight of these elements are: hydrogen, 1; oxygen, 8; and carbon, 6; hence  $C\ 12 = 72$ ,  $H\ 10 = 10$ ,  $O\ 10 = 80$ , must give 162 as the equivalent or combining number of 1 atom of anhydrous sugar. Water is composed of 1 atom of oxygen, united with 1 atom of hydrogen, consequently its atomic weight must be equal to 9.

The proximate vegetable principle, cane sugar consisting, as has been shown, of 1 atom of anhydrous sugar =  $162 + 1$  atom of water = 9, it necessarily follows that its atomic weight must be 171; that in every 100 parts it must contain 5.3 of water; and that its specific gravity must be 1600 less fifty-three one hundredths of water, and less one-fifteenth of the bulk of the sugar allowed for its expansion when dissolved in water.

Cane sugar, like all other organic substances, undergoes decomposition from slight disturbing causes. When pure, however, it is not prone to undergo any chemical change by mere exposure to the atmosphere: we have an instance in ordinary refined sugar, which may be kept for an indefinite period without alteration.

A syrup obtained by dissolving two parts by weight of very pure cane sugar in one part of water, may be kept for some time without undergoing any change; but at length it acquires a somewhat darker colour, and a portion of it, by combining with the elements of water, is slowly converted into glucose. But if it be exposed to a temperature of  $180^{\circ}$  or  $200^{\circ}$ , either in a closed vessel or exposed to the atmosphere, this change is produced in a very few hours. If the syrup be exposed to this degree of heat for ninety hours, it becomes black and acid, and a dark brown powder will be found at the bottom of the vessel.

These changes are much expedited by the presence of an acid, even when its amount is very small; on the contrary, they are retarded by the presence of lime. But if the cane sugar be not pure, if it be combined with glucose even in a minute quantity, lime has a contrary effect, and rather hastens than retards them.



The explanation of these phenomena is as follows: The sugar is first converted into glucose by combining with two atoms of water; this change is accelerated by the presence of an acid, which acts in the way formerly mentioned. The glucose in its turn is converted into glucic acid and melasinic acid. Lime or an alkali promotes this result, and when produced, it immediately enters into combination with the newly formed acids. The composition of glucic acid is, as has been shown,  $C\ 8, H\ 5, O\ 5 = \text{carbon } 12 + 7.5 \text{ water}$ ; that of melasinic acid is  $C\ 12, H\ 6, O\ 5, = \text{carbon } 12 + 5 \text{ water} + 1 \text{ hydrogen}$ .

These changes, therefore, are produced first by the addition to, and subsequently by the subtraction of the elements of water from the original cane sugar of the syrup.

At the temperature of  $300^{\circ}$  cane sugar melts, and forms, on cooling, a glassy uncrystallized mass, known as barley-sugar. After some time this substance evinces a tendency to crystallize; but if the temperature be continued for seven or eight hours, the properties of the sugar are permanently changed, and its crystallizing power is gone.

When the temperature is raised a few degrees beyond this point, decomposition *visibly* commences, water escapes in the form of vapour, and a dark brown mass remains.

If exposed to a temperature of  $400^{\circ}$ , the sugar is converted into a blackish-looking substance, which is very soluble in water, and which deliquesces on exposure to the atmosphere. It consists of hydrogen 5.9, oxygen 46.6, carbon 47.5 parts in 100, and consequently corresponds with the formula, carbon 12 + water 9, or the original sugar less two atoms of water. In ordinary language it is said that the sugar which in whole or in part has undergone this change in consequence of its exposure to a too elevated temperature is *carbonized*; an expression sufficiently explicit of the transformation which has taken place.

When the sugar is rapidly heated to  $500^{\circ}$  or upwards, a black substance, having a bitter sweet taste, is formed; water, the formic and acetic acids, and carbonic oxide, being at the same time evolved. This is the substance known by the name of caramel; it is a compound of sugar which has been more or less altered, ulmic acid (carbon 12 + water 6,) melasinic acid, and charcoal.

Cane sugar, submitted to destructive distillation in a closed retort, emits a large quantity of inflammable gases, and an almost pure carbon or charcoal remains. This, on incineration, leaves a few ashes, which consist of the inorganic salts contained in the sugar.

When a solution of cane sugar is mixed with one of sulphate of copper, if caustic potash be added in excess, a deep blue liquid is produced, which, on the application of heat, undergoes little or no change immediately. But if a solution of glucose, or the sugar of fruits, be treated in a similar manner, on the first application of heat it throws down a copious precipitate of a greenish colour, which rapidly changes to scarlet, and eventually to dark red, leaving merely a colourless liquid above. This is an excellent chemical test for

distinguishing the two varieties of sugar, or discovering an admixture of their solutions.

If a saturated solution of cane sugar be heated, in contact with a quantity of caustic potash, ulmic and formic acids are produced, which unite with the potash and form ulmates and formates of that base. The alkalies and alkaline earths, when added to solutions of cane sugar in smaller quantity, are capable of combining directly with it. From these combinations the sugar is set free in an unchanged state by the addition of any of the weaker acids; even carbonic acid will produce this effect.

The compound of sugar and lime is remarkable for being more soluble in cold water than in hot. It has a bitter taste, and is uncrystallizable.

Sugar also forms compounds with baryta, oxide of lead, and chloride of sodium (common salt). The compound of cane sugar with the last-named substance is one of great importance in the manufacture of sugar; for, according to Peligot, it consists of one part, by weight, of the salt, to six of the sugar, and is so deliquescent, that it renders liquid another portion equal in weight to itself. If, therefore, muscovado sugar contain only 1 per 100 of common salt, we may form an idea of the great injury and loss which must ensue from drainage alone, which will equal 14 per 100 of the whole.

By the action of *diluted* nitric acid, cane sugar is converted into saccharic or oxyhydric acid. If the acid be concentrated, oxalic acid is produced.

Concentrated sulphuric acid decomposes cane sugar into charcoal, water, and acetic acid. When diluted, it converts it into glucose or fruit sugar, as already stated.

Chlorine and muriatic acid gas are absorbed by sugar, which they render brown and clammy.

The vegetable acids render sugar uncrystallizable.

The action of the proteine compounds upon cane sugar have been already stated. We have seen that the contact of these bodies is capable of converting cane sugar into gum, into lactic acid and mannite, into glucose, and finally, into alcohol and carbonic acid; the kind of change depending upon the state of decay of the exciting substance.

When vinegar is added to a solution of cane sugar, and the mixture kept for a length of time at a moderate temperature, the whole will be converted into vinegar, without any sensible fermentation.—The composition of vinegar being carbon 4 + water 3, it follows, that in this conversion one atom of the sugar must produce three of the vinegar or acetic acid, and one of water, which is found to be the case.

*Muscovado sugar*, of commerce, is sugar in the state in which it arrives from the colonies, in other words, sugar mixed up with variable proportions of foreign matters. According to an analysis made by Avequin, 20 lbs. of badly cured muscovado sugar contained, of silica 414 grains, biphosphate of lime 351 grains, phosphate of lime 300 grains, carbonate of lime 38 grains, organic matter 875 grains,

sulphate of potash 291 grains, chloride of potassium 400 grains, acetate of potash 360 grains, acetate of lime 250 grains; amounting, altogether, to about 3 per cent.

In this analysis, it is not the amount of these matters which strikes us as extraordinary, for that is not greater than the nature of the soil from which this mixture of sugar and molasses was produced would lead us to expect, nor is it greater than what is found in the best kinds of sugar which we receive from the West Indies, but it is the excess of the phosphates of lime in proportion to the quantity of the other salts which renders this result an unusual one.

West India sugars always contain a quantity of insoluble impurities, which are immediately precipitated when the sugar is dissolved in water. They consist of the earthy matters which have adhered to the canes, or broken up woody tissue, of cellulose, and of coagulated albumen. Their combined amount varies from 2 to 6 per cent. the general average being about 3 per cent. The sugar, when deprived of these substances, contains chlorine, acetic acid, and sulphuric acid, lime, potash, soda, alumina, and silica, the collective amounts of which are from 0.5 to 2.5 per cent.

*Molasses* may be considered to be the mother liquor which is left after the crystallization of cane-syrup. This substance must, consequently, consist of sugar in a state of solution, and of all the soluble matters contained in the cane-juice, which have not remained in the sugar, or which may not have been removed during the process of concentration. Its specific gravity is 1330 or 1340, that is about 38° to 39° Beaumè. Avequin's analysis of molasses obtained from canes grown in Louisiana, gives, as a result from 20 lbs., good crystallizable sugar 15 lbs., salts and organic matter 1 lb., and 4 lbs. of water. The salts he describes as acetate of potash, chloride of potassium, sulphate of potash, biphosphate of lime, silica, and acetate of lime. And the organic matter, gum, or a substance resembling it; which, however, constitutes only  $\frac{1}{9}$  of the foreign matters, and but 65 per 100 of the whole. This analysis, however, does not agree exactly with those obtained from molasses produced from canes grown in those islands of the West Indies which have long been cultivated; Barbadoes' molasses, for instance, contain both a much larger quantity of organic matter, precipitable by the diacetate of lead, and a much smaller amount of fixed salts.

*Treacle* is the ultimate product obtained after the various manipulations to which sugar is submitted by the refiner. It is a viscid and adhesive fluid, of a dark brown colour, approaching to black, and has a specific gravity of about 1380 or 1400, varying from 42° to 44° Beaumè, at the ordinary temperature of England. By evaporation it becomes solid, but in a short time reverts to its original fluid state. It cannot be made to crystallize, but on repose often deposits a small quantity of a light-coloured amorphous sugar. Boiling alcohol separates from it a small quantity of crystallizable sugar, while it at the same time produces the precipitation of a considerable amount of a substance resembling gum. Cold alcohol dissolves from treacle, when dried, a compound of a dark colour, of a sweetish saline taste,

and which is very deliquescent and perfectly uncrystallizable. It appears to be a combination of saline matter and a substance which will be noticed hereafter, and which is known as the "*matière déliquescente*" of Hervey. Besides these bodies, treacle likewise contains a certain amount of uncrystallizable sugar or glucose, a little mannite, and melasinic and ulmic acids, on which its intense colour depends.

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The sugar-cane (*saccharum officinarum*) belongs to the graminaceæ or grass tribe of plants, all of which are of endogenous growth, and are generally of very simple structure.

There are many varieties of sugar-cane cultivated in the West Indies, Brazil, Louisiana, and the Mauritius, the principal of which are—1st, the common, or, as it is generally called, the Creole-cane, from having been the one originally introduced into the New World; 2d, the yellow Bourbon; 3d, the yellow Otaheite. The two latter are frequently confounded, and are, at present, probably from the influence of soil and climate, not easily distinguished. The other varieties are—4th, the Otaheite with purple bands; 5th, the purple Otaheite; and 6th, the transparent or ribbon-cane, known by its dark red streaks on a clear waxy-looking ground.

To discuss the merits or demerits of each of them belongs to the province of the agriculturist. We have another object to perform, namely, that of examining their structure and organization; and, as in this respect they are all exactly alike, a description of one is applicable to them all.

The sugar-cane is a perennial plant arriving at maturity, or, more properly speaking, at that stage of its existence when its growth is for a short time suspended, and when it seems to evince a desire to perform another function, that of flowering or fructification, at from eleven to fourteen months after planting. This may be considered a general rule, to which there are numerous exceptions, arising from locality, moisture, soil, atmospheric temperature, &c., &c.

Of all parts of the plant, it is the structure of the stem which offers the greatest interest to the planter, as it is from this part alone that he is able to extract the sugar, the object of all his labours.

A *horizontal* section of a portion of sugar-cane which has arrived at the period of its maturity, placed under the microscope, presents the following appearance. It will be seen that its internal structure consists of a series of cells, generally hexagonal in shape, which touch each other in every direction. They are formed by a thin, delicate tissue, which encloses them, not laterally merely, but both above and below; so that each is perfectly closed and separate from those adjoining. No communications by pores, or otherwise, can be discovered between them when examined under the highest power.

This structure is called the *cellular structure*. It exists in all plants, and the tissue of which it is composed is the one already described as *cellulose*. When the plant is young this tissue is very soft and yielding, but as it advances in age it becomes more firm and



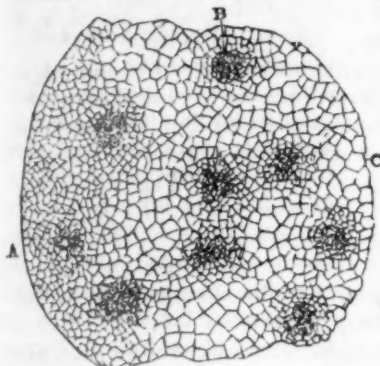
rigid, from the incrustation of its surface by a substance, called by Payen, "*la matière incrustante*."

Interspersed through the structure are a number of vessels running in groups of two, three, or four, each of which is enclosed in a sheath of woody fibre.

Surrounding the whole stem is the cortex or bark, covered by its coating of silica. It is not separable, or indeed scarcely distinguishable from the internal structure just described.

The accompanying sketch will give us an idea of the appearance

presented by such a section of sugar-cane when placed under the microscope, A being the bark or rind, B a bundle of vessels enclosed in their common sheath of woody fibre, and C the cells.

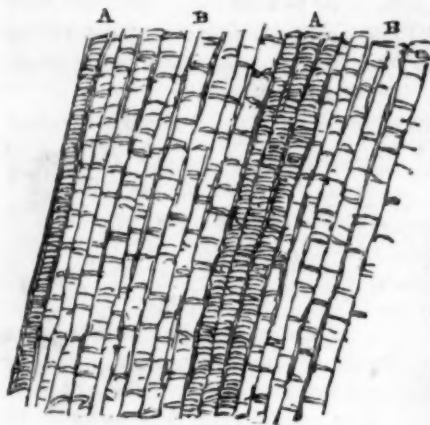


If the section be made from a part of the cane which is not as yet become mature, the cut surface of the rind will be seen to have a greenish colour, which extends also for a short distance into the cellular tissue. This

green color is owing to the dispersion of a minute quantity of the same matter which gives the colour to the leaves. It is to this substance that those organs owe the property of separating carbonic acid into its two elements, and of eliminating the oxygen. The name of chlorophille has been given to it; and according to Mulder, it consists of carbon 18, hydrogen 9, oxygen 8, and nitrogen 1, in atoms.

A vertical section of a sugar-cane similarly examined, demonstrates a like organization to the one just described. It also permits us to obtain a more distinct notion of the mode of arrangement of the different parts than we could otherwise have. When the plant has acquired a certain age, its vessels are seen to be hidden by the thin surrounding envelope of woody fibre, incrustated with the before-mentioned "*matière*" of Payen, and it is with difficulty that we can procure a distinct view of them. But if we examine a similar section taken from a newly formed joint, into the tissues of which the "*matière incrustante*" has not been deposited, the vessels may be most distinctly seen by the aid of a tolerably good microscope.— They are found running together in bundles of two, three, or four, and preserving a perfectly straight course, parallel to the axis of the stem. They appear to be formed of a succession of rings, and resemble somewhat the windpipes of some animals; hence they have sometimes been denominated annulated vessels, and occasionally tracheæ. They pass directly along the joint from its lower to its upper extremity, without presenting any appearance of anastomosis, or any other communication with each other. At the knot or point of junction of two joints, however, there is a complete lacework of vascular tubes, some of which are curved or looped, others run hor-

izontally towards the periphery of the plant, apparently for the purpose of supplying nourishment to the young bud, while another set seems to communicate by a direct course with those of the joint above.



The adjoining cut presents the appearance presented by a longitudinal section of a newly formed joint when highly magnified. A represents the vessels, and B the cells.

Externally, the knot presents the appearance of a ring. This part marks the point at which the two joints unite: it is studded over with three or four rows of minute points, from one of which may be seen a bud in the act of development. They are the germinal spots of the

plant, and find their analogy in what is called the eye of the potato.

In this neighbourhood, also, may frequently be discovered, in greater or less profusion, a powdery substance of a white or greyish colour. It is wax almost in a state of purity. Avequin has described it under the name of *cerosie*; and he mentions an important peculiarity in connexion with it, namely, that those canes which contain much sugar have little *cerosie*, while, conversely, those which have much *cerosie* have little sugar. That this wax is produced from the saccharine contents of the cane, by a transposition of their ultimate elements similar to those already described, appears very probable; and the experiments of Gundlach tend to show that this change is not an uncommon one in nature. Bees that were fed exclusively upon a solution of sugar-candy in water produced wax. Moreover, Pelouze found that when a strong solution of sugar, mixed with a small quantity of caseine and a little chalk, was exposed for some time to a temperature of  $80^{\circ}$  or a little higher, a butyrate of lime was produced. The butyric is one of the fatty acids, and is consequently closely allied to wax in its composition. If such a change can be effected by man, it is not assuming too much to attribute a similar one to the operations of nature.

Although the anatomy of the stem of the sugar-cane is, as we have just seen, very simple, the physiology of the plant, that is, a knowledge of the functions performed by each of its organs, and the mode by which these functions are effected, is a subject of considerable difficulty.

I have already stated, that water charged with gas and saline matters is absorbed by the spongioles at the extremities of the root, that it passes upwards through the stem by a combination of actions, as capillary attraction, endosmose, the influence of light and heat, assisted most probably by a vital influence little understood, until it

reaches the leaves, where, under the influence of light, the chlorophille, or green colouring matter, absorbs carbonic acid from the atmosphere, evolving its oxygen, but fixing the carbon, which is immediately combined with the principles of water contained in the crude sap. From this union a variety of proximate principles may be formed, in each of which the proportion of carbon is greater than the amount of oxygen necessary to convert it into carbonic acid, and in which the respective amounts of hydrogen and oxygen are in the proportion necessary to form water.

A great number of these substances have been enumerated, and the facilities with which they may be converted into each other, either in the laboratory of the chemist, or in the still greater one of nature, has been described. But when our inquiries extend to that series of combinations which succeed each other, or exist simultaneously during the different periods of the life of a plant, from the moment of its first germinating until the time when, after fructification, its juices become almost exhausted; if we ask why, from the sap, sugar is deposited in one part of the plant, starch in another, or some proteine compound in a third, we must confess that our knowledge is exceedingly imperfect.

In the sugar-cane a train of actions, similar to those described as occurring in other plants, is observed to take place. Water, holding in solution carbonic acid, ammoniacal gases, and the saline matters required for the purposes to which they are destined, is absorbed by the roots; it is carried through the stem, and thence to the leaves by the annulated vessels. In this state it is known by the name of crude sap. Arrived at the leaves, the sap undergoes the changes just mentioned, and is in all probability at once converted into cane sugar and water. Whether this really takes place, or whether, from the sap thus changed, the sugar is deposited in the cells of the plant by a process similar to that of secretion, we have no means of ascertaining with certainty. Of this we are, however, assured, that the vessels contain a fluid, consisting for the most part of crude and unassimilated substances, whilst in the cells is found a solution of sugar and water, in all probability free from any admixture of foreign matters.

During life there appears to be going on a constant exchange of principles between the contents of the cells and those of the vessels, by means of endosmose and exosmose. The cells absorb a portion of the water contained in the sap-vessels, by which the crystallization of their saccharine contents is prevented; and they in return give to the sap a certain amount of their sugar, which increases its richness and nourishing properties.

The crude sap of the sugar-cane has never been analyzed, but there is every reason to believe that it has a composition similar to that of other plants. According to Vauquelin, the sap of plants consists of extractive matter containing ammonia—a compound of *proteine*; a mucilaginous substance—*dextrine*; water and salts, which vary in each species. It has been stated that plants have, to a certain extent only, the power of selecting the substances with which their roots may be in contact; therefore the sap of a plant may con-

tain at one time, matters foreign to its natural constitution, which will not, consequently, be generally found in another of the same species, but placed under other circumstances.

When any of the more perfectly soluble saline principles of a plant are found existing in the soil in an unusual quantity, we may expect to find them in the sap of vegetables cultivated on such a soil more than usually abundant. In these respects the sugar-cane does not differ from other vegetables; *foreign* matters are occasionally found in its sap, and still more frequently an excess of one or other of its saline constituents.

The contents of the cells are composed of much fewer materials than those of the vessels, consisting almost entirely of sugar and water. Whether any other substances are ever associated with these two is at present unknown; but if we can form an opinion from what takes place in a few other plants, which present close analogies in this respect to the sugar-cane, we must conclude that such is not the case. It is certain, also, that if any other substances be present, their amount is exceedingly small.

We also have a right to conclude, from a similar method of reasoning, that the sugar contained within the cells of the sugar-cane performs the same office as the starch which is deposited in the roots and pith of plants of other species, namely, that of affording nourishment when the future exigencies of the plant may require it. When the sugar-cane is vegetating in all its luxuriousness, when joint upon joint is quickly being added; or when, from an excess of vigour, new buds are sprouting from almost every joint, the contents of the cells consist of little more than water, the sugar being absorbed as quickly as it is deposited, to serve for the formation of the new tissues. When, on the other hand, time and a favourable season have conducted the plant to that stage of its existence which has been expressed by the term "maturity,"—when, for a time at least, its growth and development have ceased, in preparation for the performance of another function, the contents of the cells abound in their saccharine constituents. This condition of the sugar-cane is accompanied by a diminution of the quantity of the sap, and by a slowness in its rise; it is therefore the one best suited for the purposes of the manufacturer.

Cane-juice is the fluid obtained from the cane by a degree of pressure sufficient to lacerate and break to pieces its entire structure; it must therefore consist of a mixture of those two fluids, so different in their composition. How essential is it, therefore, to attend to these circumstances, and rather suit the crop time to the cane, than, as is too frequently the case at present, suit the cane to the crop time.

When a portion of sugar-cane, cut into thin slices and dried, is infused in cold alcohol, a peculiar substance remains in solution, which is obtained on evaporation. It is neither salt nor sweet to the taste, is uncrystallizable, and highly deliquescent. It is the "*matière deliquescente*" of Hervey; its composition is unknown.

The saline matters found in the sugar-cane consist of acetates of lime and potash, the malates of lime and potash; the chlorides of



sodium and potassium, the sulphates of potash and lime, carbonate of lime, phosphate of lime, silica, and alumina. Their amount differs materially in the various parts of the plant. The leaves contain about 4 per 100, but the stem rarely more than from 0.4 to 0.6 per 100 of these inorganic substances.

*Cane-juice.*—The term cane-juice is, as just stated, applied to the compound fluid derived from the cane by means of powerful pressure; it must, therefore, consist of many other substances besides sugar and water.

When recently expressed, it is opaque, frothy, and of a yellowish green, or sometimes greyish colour. It has an aromatic and sweet taste, and balsamic smell, and produces a slightly acid reaction on litmus paper. In the latter respect it offers considerable variations. Its specific gravity is said to vary from 1046 to 1110, from 7° to 15° Beaumê. These must, however, be considered as its extreme limits, which are very rarely observed. I have never seen it in any country of a density below 8.5° nor higher than 13°, the temperature being 80°. Its specific gravity usually fluctuates between 1070 and 1090, 10° and 13° Beaumê. The difference in density depends upon many causes, as the age of the cane, the climate, the soil, the season, the temperature of the atmosphere, &c.

Cane-juice consists of two parts, easily separated from each other by filtration, the one being a perfectly transparent fluid of a pale yellow colour, the other a dark green fecula, which remains upon the filter.

The latter, upon examination under the microscope, is seen to be formed of a green globular matter—chlorophille, portions of woody fibre, cellulose in the state of the broken-up parietes of the cells, and a few shreds of coagulated fibrine. By the application of heat, and the addition of a small quantity of lime, these substances separate readily from the pure juice, and then constitute the *scum of the clarifiers*. This scum has been analysed by Avequin, who states that it consists of cerosie or wax 7.5, green matter 1.3, albumen and wood 3.4, biphosphate of lime 0.5, silica 2.1, and water.

The transparent liquid which remains when the above matters have been separated by filtration, consists of water, sugar, a small quantity of dextrine, varying, probably, from 1 to 4 parts in 1000 in ripe and healthy canes, soluble compounds of proteine, saline matters, and a colouring principle, distinct from the green matter mentioned above, being soluble in water.

On a small quantity of filtered cane-juice being placed under the receiver of an air-pump, and allowed to remain there until all evaporation had ceased, a thick yellow syrup was produced which obstinately refused to crystallize. But on the addition of a little alcohol, crystallization took place on further evaporation.

This experiment was performed by Peligot; it has been repeated by me with a similar result.

\* In Louisiana we find it sometimes as low as 4½ and 5° of Beaumê, we are informed.—[Ed.]

When a portion of cane-juice, treated as before, that is, carefully filtered, is exposed in a glass vessel to the action of heat, it gradually loses its transparency, becomes cloudy, and, on ebullition, thin, flocculent particles of albumen make their appearance, which, on removal of the liquid from the heat, fall to the bottom of the vessel in the form of a white precipitate. If the liquid be deprived of these flocculent particles, and then evaporated in vacuo at the ordinary temperature of the atmosphere, crystallization will ensue, but not so completely as in the first experiment, a portion of it remaining in the state of thick syrup.

If a portion of filtered cane-juice be evaporated in a shallow vessel over a sand-bath, at a temperature varying from  $180^{\circ}$  to  $200^{\circ}$ , until it assumes the form of an inspissated syrup, partial but slow crystallization will take place, the crystalline substance amounting to about one-third of the syrup. On submitting the latter to a further evaporation in a similar manner, a very small amount of ill-defined crystals are produced.

These experiments teach us,—1. That cane-juice, without the addition of any foreign matter, when its water is evaporated at the ordinary temperature of the atmosphere, does not produce crystals of sugar. 2. That when it is exposed to a temperature a little below that of boiling water for the purpose of concentration, crystallization of a part, but not of the whole, of its sugar takes place. 3. That on the addition of alcohol to the concentrated syrup, nearly the whole of it is converted into a solid crystalline mass on further evaporation.

We can explain the action of the heat and the alcohol in the above experiments only in two ways, namely, that some chemical or chemico-electrical change has been effected on the sugar by the agency of those bodies; or that they have separated from the cane-juice a substance, owing to the presence of which the sugar did not evince its inherent crystallizing property. The latter is the effect which has taken place. The substances contained in the cane-juice, besides the sugar and the water, are dextrine, the proteine compounds, and the salts. Of these, the only one which is equally acted upon by both alcohol and heat, is the proteine compound called vegetable albumen; the other organic substances are unaffected by the degree of heat employed in the experiments, but alcohol coagulates them all.

If cane-juice, merely filtered as above described, be allowed to remain at rest for a short time, it gradually becomes viscid and loses its transparency, a portion of its sugar having been converted into gum. The *viscous* fermentation has commenced. Should the temperature of the atmosphere not exceed  $60^{\circ}$  or  $65^{\circ}$ , as is the case in the Island of Madeira during the months of January or February, this change may go on until the whole of the sugar disappears.

When such is the case, the character of the cane-juice is entirely destroyed. It now presents the appearance of a viscid mucilaginous liquid, which possesses neither sweetness nor acidity, and which is incapable of undergoing the vinous fermentation.

Within the tropics this transformation is never complete; for, owing to the high temperature which exists there, the viscous fermentation no sooner commences than it is followed by another, which soon supersedes it, and which gradually converts the cane-juice into a liquid possessing a sour taste, and a smell somewhat approaching to bad vinegar. This is the lactic acid fermentation, the cause of so much mischief when it is allowed to take place.

The establishment of these two changes does not altogether prevent the partial development of a third, in countries where the causes which excite them are so redundant as they are in the West Indies. Indeed they are almost always accompanied in a slight degree by the vinous fermentation, the alcohol resulting from which is, as soon as formed, converted into vinegar. So that the *souring* of cane-juice is not always exclusively owing to the development of lactic acid, but is often dependent upon, to a greater or less degree, the formation of acetic acid also.

These changes are likewise accompanied by the formation of a small quantity of mannite.

When cane-juice, which has already been boiled and filtered, is submitted to the action of heat a second time, the flocculent particles which separated from the liquid during the first ebullition are not now observed, but in place of them a thin film is seen to form on the surface. A similar effect is produced in all liquids which contain caseine in solution. We have a familiar instance of this in boiling milk. It has been already stated that caseine is one of the proteine compounds found in cane-juice, in which it is held in solution by the presence of a vegetable acid or acid salt, in the same way as it is found combined in the juice of the grape. As caseine cannot be separated from its solutions by heat alone, it is evident that when this agent is the only one to the action of which cane-juice has been submitted, the caseine must still remain dissolved in it in its original quantity. Syrups prepared from cane-juice thus treated undergo a partial crystallization only, and are very much disposed to run into one or more of the varieties of fermentation just alluded to.

*Boiled* cane-juice likewise changes its chemical character with great rapidity, the three varieties of fermentation taking place in it simultaneously; but while the viscous and lactic acid fermentations predominated, as we have seen in the juice which has not been exposed to heat, in this the vinous fermentation is the one which is most active.

Caseine is, as has been already stated, insoluble in pure water; but when the water is acidulated by the addition of any of the vegetable acids or acid salts, or when it is rendered alkaline by a small quantity of potash, soda, or lime, it becomes in both cases a solvent of this principle. In the one it is separated from its solution by the addition of an acid, in the other by that of an alkali, *provided that neither be added in excess, otherwise it is first precipitated, and afterwards re-dissolved.* We can thus explain the necessity for the employment of lime in the defecation or clarification of cane-juice.

When defecated by the employment of lime, cane-juice may be made to crystallize almost entirely on due evaporation at a high temperature. In this state also it runs rapidly into the vinous fermentation; and if the other two varieties are occasionally found to accompany the former, it is at the most to a very small extent.

The nature of the change produced in sugar by its conversion into the products of the vinous fermentation, is explained as follows: When a small quantity of yeast has been introduced into a solution of cane-sugar, and again separated from it by means of filtration, the sugar will be found to have undergone a change, it will not crystallize on evaporation; and on analysis it is seen that it has been converted into glucose. If the yeast be allowed to remain a short time longer, the vinous fermentation will commence. This consists in the conversion of 1 atom of glucose into 2 atoms of alcohol, 4 atoms of carbonic acid, and 2 atoms of water, thus:

	Carb.	Hyd.	Oxyg.
2 atoms of alcohol, - - -	= 8	12	4
4 atoms of carbonic acid, - -	= 4	0	8
2 atoms of water, - - -	= 0	2	2
1 atom of glucose, - -	= 12	14	14

It is frequently stated, that an incipient degree of the vinous fermentation in syrup is rather beneficial than otherwise, by augmenting its granulating properties. This statement is probably true to a limited extent. We can understand that the formation of a small amount of alcohol may be accompanied by the coagulation and precipitation of a small quantity of some foreign organic substance, the presence of which may enfeeble somewhat the crystallizing power of the sugar. But these results would be more than compensated by the conversion of a part of the sugar into glucose, entailing a loss in the quantity of crystallized sugar that would be obtained.

The fact that fermentation may take place in cane-juice, after its defecation by lime and heat, would indicate that these two agents are insufficient to remove all the proteine compounds or ferments from it; and such is the case, for on the addition of a little diacetate of lead to cane-juice, which has been treated in that manner, a copious precipitate results, which, on the application of heat, emits ammonia.

The hydrates of metallic oxydes when in a nascent state, alumina, and infusion of galls, have a similar, although less powerful, action than the diacetate of lead.

The practical inference to be drawn from the foregoing remarks, is the necessity of removing as completely as possible the azotised principles from the cane-juice, as by their prolonged contact the latter will inevitably undergo, during the different stages of its concentration, one or other of the catalytic changes above mentioned. But besides these effects, their presence, probably assisted by that of a small quantity of dextrine, tends powerfully to prevent the crystallization of the syrup.



As there are certain substances which have the property of checking or preventing the various fermentations to which cane-juice is liable, the occasional employment of them has been recommended. They consist, for the most part, of sulphurous acid united to a base, such as zinc or lime for instance. In a well managed boiling-house they will never be required; and it would be needless to say, that in sugar-making, as in other arts, that which is not required should not be employed.

The *saline matters* found in cane-juice consist of those which are peculiar to the plant, and which are more or less soluble in water; they are the chlorides of sodium and potassium, sulphates of potash and lime, bisilicate of potash, alumina, a trace of iron, and a little biphosphate of lime. Besides these, there are also one or two organic acids combined with one or more of the above bases; but their nature has not as yet been very clearly made out.

The aggregate amount of these substances, as might be supposed, varies considerably. It usually, however, constitutes from 2 to 4 parts in 1,000 of cane-juice; but sometimes it would appear to be greater. This variation in quantity is owing to the nature of the soil on which the cane is grown. The excess is caused either by the introduction of a foreign salt, or by the great preponderance of one of those which are essential to the composition of the plant.

Although the quantity of saline matters contained in cane-juice may at first appear to be small, we must remember, that as the concentration of this liquid goes forward, the ratio between them and the other constituents becomes far less disproportionate. Let us suppose that the evaporation of cane-juice containing only 2 parts of these substances in 1,000 be such as to produce a syrup equal to  $\frac{1}{10}$  of its original weight, it is clear that the syrup must contain of them 1.2 per cent. I have already stated, on the authority of Peligot, who has given much attention to this subject, that one part of the chloride of sodium will combine with nearly six times its bulk of sugar, and form a deliquescent compound, which is capable of liquefying another portion of sugar equal to itself in *bulk*. It is also very probable that the other saline constituents may likewise form similar combinations. Their presence, therefore, must always be considered injurious.

We possess no means of getting rid of these matters when once present; we should, therefore, prevent their introduction into the cane by draining the soil. This induces me to mention a cause of injury both to the vegetation of the canes and to the cane-juice obtained from them, not unfrequent in some of the West India islands.

Many of those islands, as is well known, are of volcanic origin, and their soils, particularly in certain localities, contain in large quantities a compound of two atoms of sulphur and one of iron, known by the name of iron pyrites. When this substance is exposed to the air, it is slowly converted to sulphate of iron and sulphuric acid, which remain in solution in the undrained water, rendering it sour and very detrimental to the roots of the canes. Again, when this sour liquid is in contact with vegetable matter, and when the

air is excluded, as it is when this liquid percolates through a deep stratum of alluvial soil, it parts with oxygen to the decaying vegetable matters, and is again converted into iron pyrites. From these soils, also, sulphuretted hydrogen gas is often emitted, in considerable abundance, which, in addition to the evil effects that its presence produces on plants, renders such localities extremely insalubrious to man. By drainage and a proper method of agricultural treatment, both these evils may be remedied, and estates which are at present almost uninhabitable, may be rendered comparatively salubrious, and their produce improved both in quantity and quality.

The relative amount in which the substances which have been described enter into the composition of cane-juice, under ordinary circumstances may, from an average taken from numerous experiments made by different persons, be expressed as follows:—

Water.....	81
Sugar.....	18.20
Organic matter, precipitated by diacetate of lead.....	0.45
Saline matter.....	0.35

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100.

The accuracy of this formula is supported by a great uniformity in results, obtained under a variety of circumstances, and, were it necessary, could be confirmed by my own observations; but it is obvious from what has been previously stated, that cane-juice must offer considerable modifications in this respect, arising from the age of the plant, from climate, from soil, &c.

Peligot remarks, "that when the amount of foreign matter, such as the organic azotised principles, salts, &c., contained in cane-juice in the proportions given above, be compared with that which exists in the juice of the beet-root, the former may be considered as a fluid of almost perfect purity; that it may be regarded, indeed, as a solution of sugar and water."

It is true that cane-juice contains both a larger quantity of sugar, and, also, a considerably less quantity of foreign matters than the juice of the beet-root, and is, therefore, less prone to undergo the changes which the presence of those bodies promotes under the same circumstances. But it must be remembered, that the cane-juice in the West Indies is, at the moment of its expression, submitted to the action of an atmosphere, the temperature of which is from 80° to 85°, while the temperature of the atmosphere in France, at the season when the beet-root is best fitted for the purpose of sugar-making, rarely exceeds, and is not often so high as 50°. This difference of atmospheric temperature in two cases tends much to the equalization of their respective chances of fermentation.

Many circumstances will disturb the amount of each of the constituents of cane-juice. Probably in no two colonies is the cane-juice precisely alike in this respect. But there are causes common to all, and which being always in operation in a greater or less degree, prevent the cane-juice of one year resembling in all respects that of another, although both may be the produce of the same estate.

The planter necessarily strives to cut his canes at the period of their greatest maturity; but a variety of circumstances often prevents the accomplishment of his wish. During the days of slavery the reaping of the crops always required a space of time equal to four months for its accomplishment; at present, from the want of labor experienced in all the colonies, this period is considerably extended. In so long a lapse of time many changes may take place in the weather, which set all his calculations at defiance; for instance, renewed vegetation of the canes may commence, and then the character of their juice will be materially changed.

There are certain lands on which the canes never appear to ripen; they remain large, green, and watery; and except after a long continuance of dry weather, they are little disposed to arrow. Canes of this kind are invariably found growing in soils abounding in saline matters, which act as a powerful stimulus to the *growth* of the plant, but which, in an almost equal degree, tend to prevent the deposition of sugar in its cells. Such soils are either those in which drainage is urgently required, or they are virgin lands recently brought into cultivation, and rendered preternaturally saline by the burning of the vegetation which had previously sprung up from them. The juice obtained from canes that have been cultivated under these circumstances is the cause of great embarrassment to the sugar-boiler. In the first place, it often requires an unusually large quantity of lime for its perfect defecation. It is dark in color, and its ebullition is difficult and irregular. On the continued application of heat it becomes viscid, its color becomes deeper, and on further evaporation of its water it is very liable to burn.

The inspissated syrup obtained from it granulates imperfectly, and the sugar is dark in color, soft, and pasty. The molasses are too abundant, nevertheless they leave the sugar so slowly, that the drainage seems interminable.

On the other hand, should an alteration of sunshine and rain, which for the space of five or six months has induced a luxuriant vegetation in the plants and ratoons, be followed by a long continued drought, their growth will be prematurely checked, and they will often, under these circumstances, show a disposition to arrow. Should they now be cut, the juice will probably be found of a good quality, and easily made into sugar, the only attendant evil being its deficiency in quantity, owing to the small size which the canes have attained. In such cases it might be thought advisable to cut the canes rather than to permit them to remain on the soil, with a risk of the cessation of vegetation. Such a course is often impracticable, for the estate is not yet prepared for it; even if it were, the planter would not be justified in running so great a risk of a change in the weather at a season when long experience has taught him to expect it, and thus to jeopardise the whole of his year's labor; for with a return of rain vegetation would immediately commence, and then to the evil of having canes of unusual shortness would be added that of a juice poor in saccharine matter.

Should the drought commence a short time only before the season for commencing crop—that is, when the canes have attained their ordinary growth, the effect is an eminently beneficial one, for it consists of an inspissation of the saccharine contents of the cells by the exhalation and evaporation of their water, and it is at the same time accompanied by a diminution in the quantity of that fluid which has been described above as the sap. Cane-juice under such circumstances has a considerable density, and is often of great purity, so that, during and after its concentration, the sugar, to use a common expression, makes itself.

But if the drought, at whatever age of the cane it may have commenced, should continue beyond the time necessary to produce the effects above mentioned, the leaves of the plant turn yellow, the stem becomes red, and has a scorched appearance, and not unfrequently splits, or becomes hollow from a contraction of its cellular structure. The canes then are said to be *burnt*. The juice thence obtained is generally deficient in quantity, and its quality is considerably altered. In extreme cases it is strongly acid; in this respect it varies much, but it always requires a large quantity of lime for its neutralization, while the addition of this substance to it is destructive in its effects. On the application of heat it becomes rapidly darker in color, it boils unequally and lazily, is very apt to burn, and the syrup refuses to crystallize. The reader is now, I trust, able to understand the nature of the change that has resulted in these cases. In consequence of injury that the structure of the stem has suffered, the liquid contents of the different organs have been mingled, the azotised matters have acted as fermentative agents, and the sugar in whole or in part has been converted into gum, glucose, and lactic acid, the one or the other of them predominating in different cases.

A similar result, but arising from another cause, is of common occurrence in Louisiana. In that country the frost not unfrequently sets in before the canes are ready to be cut. The frost causes an expansion of the fluids, and a rupture of the organs which contain them. An intermixture of the saccharine and nitrogenized principles consequently ensues. Should the frost continue, no evil results are observed, for at such a temperature catalyssis is prevented; but should a thaw succeed, the cane-juice becomes viscid and mucilaginous, the syrups resulting from it will not crystallize, and the only use to which they can be applied is that of distillation.

The effects produced on the cane-juices by the borer, by rats, and by all mechanical injuries, are explained on similar principles.



## Art. II.—BRITISH AMERICA.

EXTENT OF BRITISH AMERICA.—PROGRESS OF LIBERAL PRINCIPLES.—  
DESTINIES.—UPPER AND LOWER CANADA.—NEW-BRUNSWICK.—  
NOVA SCOTIA.—NEWFOUNDLAND.—NEW-BRITAIN, ETC.

THE present paper comprises another of the series promised upon the various geographical divisions of the Western world; and the reader will find advantage in consulting them together in the volumes we have published and are now publishing.\*

British America is in extent equal to about one-third of the whole continent, and is limited by the possessions of Russia on the 141° of longitude, and all other points by those of the United States. The islands of the Arctic sea, and along the Atlantic coast, are claimed as a part of the same empire; and the late treaty negotiations have settled the long agitated Maine and Oregon boundaries.

The northern regions of British America possess no agricultural capacities, but are locked up in frosts and perpetual snows. The fur trade can alone be prosecuted. To the south, the climate becomes genial and the soil fertile. Immense forests prevail here.

British America offers perfect relief, says Mr. Gesner, in his late work upon New-Brunswick, to the overflowing population of the mother-country, whose manufacturing districts and most productive counties have become so overloaded with the humble classes, that the least disturbance in the state of trade produces the greatest degree of misery and crime.

In the same connection Mr. Alison, in his work on Population, remarks:—Nor is there any chance of this prodigious opening for labor in Australia and our North American colonies, being either diminished or lost to this country, except by the folly of internal legislation. The productive land in Canada and New-Holland, exceeds that of all Europe put together. It is so intersected by water through the great chain of the lakes, which flows through its centre, that hardly any part of it is fifty miles from inland navigation, and an immense tract lies on the shores of vast navigable rivers or stupendous inland seas. The climate, severe in Lower, is much more mild in Upper Canada; the vine, the apricot, peach and nectarine, ripen in the open air. The soil is so rich from the falling of leaves during many thousand winters, that it bears the finest wheat crops for three years, without manure. The invention of steam has facilitated indefinitely both the means of getting at this fertile district, and the market for its produce when cultivation has commenced. Nothing is wanted but hands to clear the vast tracts of wood-encumbered plains, and that is precisely what England possesses to superfluity.

\*In the preparation of this article, we are much indebted to the volumes of Mr. Simmonds' Colonial Magazine, published in London—a work which should be more extensively patronized in this country.

The possession of this immense country can in no other sense be considered important to Great Britain, than in offering a vent to her rapidly augmenting population. From its trade and commerce, in consequence of her systems of exclusion and restrictions, she has perhaps obtained less advantage than the continual outlay which has been every year required. One has not to be a deep observer, to mark at a glance the comparative progress of the regions on either side of the St. Lawrence, and there can be no other manner of accounting for it, than the spirit of liberty and attendant enterprise which exist upon the one hand. With equal liberality of laws and government, a very different state of things might early be predicated.

Nor are we to suppose the old colonial policy existing in its full force in British America. Many and marked improvements have been demanded and made since the independence of the American states. The contagion of free institutions is not easily arrested, and a careful study of the colonies now under consideration, will show that they have been gradually gaining power at the expense of the mother-country, and that the concessions made them from time to time, would have been considered treason to demand at the close of the last century.\* The influence of the United States is felt all through the British colonies in *their amelioration*. This we regard the high, holy and peaceful mission of America. We ask no other conquests! Let our neighbors regulate their own affairs in the manner best suitable to them, so long as there shall be no interference with ours. If a "manifest destiny" decree all America to us, it is well to wait the falling of the ripe fruit without agency of ours. A better policy would be—"hold, enough!"

British America embraces a territory equal in extent to two-thirds of the whole of Europe. It is divided into the provinces of Canada, (Lower and Upper,) New-Brunswick, Nova Scotia and Newfoundland, and New-Britain,—the latter a cold and barren country, between Hudson's Bay and the Pacific, thinly inhabited by Esquimaux and other savages.†

The following table shows the area in square miles and population of each, so far as has been specifically ascertained:

\* A well-informed writer, in the last number of the *North American Review*, July, 1848, shows in strong colors the progress of liberalism in the British colonies. The descendants of the Tories of our revolution who removed to these points, demand yet more than did the Whigs of that period, whom they stigmatised as rebels and traitors. Some of the ablest men in the British colonies are of this class. "What do we see," asks the *Review*, "after the lapse of nine years? The popular will having wholly wrested away the prerogative, now breaks up cabinets and displaces the highest functionaries, without check, accountability or control. We see, too, a minister of the Crown conceding, in express terms, that such a power seems to be a necessary part of representative institutions in a certain state of their progress! If a single Whig of 1776, in his loftiest mood, even so much as dreamed of obtaining a concession like this, we have yet to be informed of it."

† Labrador, Cape Breton, Prince Edward's Island, Anticosti, may be considered embraced.

	Square Miles.	Population.	Pop. to Sq. Mile.
Lower Canada.....	194,000	700,000	3
Upper Canada.....	150,000	600,000	4
New Brunswick.....	27,700	180,000	6
Nova Scotia.....	17,000	350,000	18
Newfoundland.....	50,000	100,000	2
New-Britain.....	1,361,300	—	—
Total.....	2,300,000	1,930,000	1

Sebastian Cabot is said to have first discovered Canada in 1497. The French prepared a map of the Gulf of St. Lawrence in 1508, and in 1525 took possession of the country in the name of the king of France. Quebec, the first settlement, was not founded till 1608; after which period the colonists were much annoyed by the native Indian tribes. A friendly compact, however, was ultimately made, and they became auxiliaries against the British. In 1759, Quebec was taken by the British forces under Gen. Wolfe, and the whole territory ceded to Great Britain by the treaty of Paris, 1763. The seigniorial rights, the various holdings and tenures under them, and the endowments of the Catholic Church, were left undisturbed; and all the estates, including the unappropriated lands in the provinces, held at the period by the French king, became vested in the British crown. Here began British rule and colonization north of the great American lakes.

We shall notice the provinces separately in the order named in the table.

**LOWER CANADA.**—More than two-thirds of the population are of French origin, speak the French language, and profess the Roman Catholic religion. The chief settlements are in the valley of the St. Lawrence, between Montreal and Quebec, a distance of one hundred and fifty or two hundred miles. The following statement exhibits the quantity of lands surveyed, value, &c.:

	Acres.
Jesuits estates not appropriated.....	664,080
Indian Reservations and St. Maurice.....	87,000
Seigniorial tenures granted to individuals.....	7,496,000
Free and common socage granted to individuals.....	3,847,629
Included in the above.....	1,684,233
On hand.....	3,907,000
	<hr/> 16,934,862
Unsurveyed.....	107,856,000

Income from the Territorial Fund in 1843, was \*\$136,000; in 1844, \$25,900; due for the sale of Crown lands, \$269,600.

Of the surveyed lands, 3,907,000 acres are unappropriated; from which \$592,293 in government scrip, at the valuation of \$1 per acre, must be deducted:

3,314,707 acres, valued by Surveyor General at 60 cents.....	\$2,071,690
8,500,000 unsurveyed, in rear of townships... ".60.."	5,312,500
6,000,000 north-east part of dist. of Quebec... ".75.."	4,500,000
750,000 south-east sect. of St. Francis, &c... 100.."	750,000
	<hr/>
Land Fund.....	\$12,634,190
Which, if invested at 5 per cent. will yield.....	631,709

\* The sterling has been turned into federal money, waiving fractions, as more satisfactory to our readers.

This revenue is charged with about \$150,000 to common schools, and \$20,000 annuity to the Indian tribes.

From an official report in 1845, we collect the following :

Houses inhabited, 106,803; vacant, 4,041; now being built, 1,613;—112,487.

Heads of families, 121,441, of whom 76,032 are proprietors of real estate; 37,113 non-proprietors, and 8,296 having votes in towns, &c.

Total resident population, 687,175: of which there are natives of England, 11,886; Ireland, 44,012; Scotland, 13,341; Canada, of French origin, 518,565; Canada, of British origin, 85,075; continental Europe, or otherwise, 2,353; United States, 11,943; aliens not naturalised, 1,505; total, males over 15 years of age, 186,548; females, 188,954; under 15, males, 158,447; females, 157,344. Of those under age, there are 2,111 males married, and 6,705 females married; being a total of 8,816 married minors.

Deaf and dumb persons, 725, of which 447 are males, and 278 females; blind, 523: males, 273; females, 250; idiots, 950: males, 478; females, 472; lunatics, 308: males, 156; females, 152;—total, 2,506.

The proportion of deaf and dumb in Canada to the whole population is as one to about 957, a greater proportion than prevails throughout all Europe, (1 in 1,537,) and the United States, (1 in 2,000,) or the whole world, (1 in 1,556,) and is only exceeded by the solitary cases of Switzerland and Baden, where the proportion is respectively 1 in 503 and 559.

In the whole province there are only 261 persons of color: 140 males, and 121 females.

The Church of Rome has 571,714 of the population within its pale, leaving a fragment for the other fourteen religious sects, the principal of which, in numbers, are the Church of England, 43,274; Scotland, 26,725; Methodist, 15,853; Presbyterian generally, 5,231; Baptist, 4,067.

Occupations are thus stated: Male farm servants, 5,967; other male servants, 5,390; female servants, 11,510; engaged in trade and commerce, 3,739; paupers, 463.

Of the soil, the occupied acres are 7,540,450, of which 3,083,949 are under cultivation, and 4,456,400 not under cultivation.

The produce of the year 1843 was:—Wheat, 914,909 bushels; barley, 1,221,710; rye, 310,458; oats, 6,688,933; peas, 1,428,303; Indian corn, 143,947; buckwheat, 375,744; potatoes, 9,914,639.—Total, 21,365,913 Winchester bushels.

There are 1,629 educational establishments, including 63 colleges, academies and convents. In all, 56,578 pupils are taught; 31,432 males, and 25,146 females.

The shipping of Quebec, in 1844, consisted of 509 vessels, with a tonnage of 45,351, manned by 2,590 men; that of Montreal at 60 vessels, tonnage 10,097, and 556 men.

Of manufactories, there are 417 grist mills, with 849 run of stones; oat-meal, 111; barley, 48; saw, 895; oil, 30; fulling, 155;



carding, 165; thrashing, 451; paper, 7; iron-works, 79; trip-hammers, 18; nail factories, 7; distilleries, 37; brewing, 29; tanneries, 325; pot and pearl asheries, 423; all other manufactories, 136.—Total 3,333.

The rate of wages of common laborers, for corporation work, is 60 cents per day, and for canal, 75. Mechanics and artisans usually receive in Montreal—masons from \$1.25 to \$1.75 per day; plasterers, \$1.50 to \$2; bricklayers, \$1.62; painters, \$1.62; carpenters \$1.25 to \$1.62.

The *Montreal Transcript*, encouraging foreign labor to try its fortunes in Canada, says:

"Our opinion is, that the condition of every industrious mechanic and laborer must be improved by emigration to this colony. There is more elbow-room here—a wider field for energy and exertion. There is above all, more to hope for. No man need sit down in gloomy despair, toiling on from day to day, and week to week, without the slightest prospect of ameliorating his condition. There is none of that horrible uncertainty—that wavering between starvation and the dread of the workhouse which depresses hundreds of thousands of human beings at home. To the honest, the sober and industrious, the present is more pleasing and the future more bright."

The project of a railroad from the Canada line to Portland, Me., 124 miles, has been introduced, upon estimates of \$2,500,000; but the success of enterprises of this kind, in so cold a climate, is much doubted. Mr. Hall says of Canada:—

"I find that falls of snow are frequent in that region—that the quantity of snow on the ground in the winter season varies from two to three feet in depth, but very seldom equals three feet. The snows are light and dry, unaccompanied by rain or sleet moisture. It is the damp, heavy snows, sleet, and frozen rains, which create so much difficulty, and constitute so serious an obstacle to the operations of a railroad. A light, dry snow, of any depth that is known to fall in any one storm, is easily removed by the snow-plough now in use. On the seaboard, and farther south, the snow and sleet in their season are occasionally serious obstacles; but the further you go north, and the further you recede from the seaboard, the drier and lighter the snow, and the less the difficulty in removing it from the track."

#### TRADE OF QUEBEC AND MONTREAL.

Without extending general remarks, we close our statistics of Lower Canada, by a glance at its productions and commerce. The following is a table of the exports by sea, of wheat, flour, oats, and peas, from Montreal and Quebec, for nine years:—

Years.	Flour. Bbls.	Wheat. Bush.	Oats. Bush.	Peas. Bush.	Years.	Flour. Bbls.	Wheat. Bush.	Oats. Bush.	Peas. Bush.
1838..	59,204..	—	—	..1,415	1843..	209,957..	144,233..	3,651..	88,318
1839..	48,427..	3,330..	—	..2,855	1844..	415,467..	292,183..	24,574..	130,355
1840..	315,612..	142,059..	—	..59,878	1845..	442,228..	396,252..	53,530..	220,912
1841..	856,210..	562,862..	—	..123,574	1846..	555,602..	534,747..	46,060..	216,339
1842..	294,799..	204,107..	5,666..	..78,985					

During the year 1846, 30 vessels, with a tonnage of 19,761, were built at Quebec.

The lumber trade forms a considerable item, as will appear by the following statement of timber measured at Quebec, in the last three years:—

	1845.	1846.	1847.
White Pine.....feet.....	19,111,455.....	24,504,375.....	12,026,294
Red Pine.....“.....	4,444,515.....	5,247,754.....	6,516,922
Oak.....“.....	1,800,446.....	2,429,582.....	3,484,569
Elm.....“.....	1,566,915.....	3,455,122.....	2,935,541
Ash.....“.....	412,096.....	260,088.....	122,715
Basswood.....“.....	37,086.....	82,798.....	12,693
Butternut.....“.....	9,664.....	20,782.....	6,618
Tamarac.....“.....	199,933.....	593,584.....	590,619
Birch and Maple.....“.....	160,007.....	240,787.....	92,237

Value of exports at Quebec, 1847, \$7,067,900; imports, \$3,062,800. Value of imports at Montreal, 1847, \$8,479,800, being a decrease of \$988,170 from the previous year's imports. Of British manufactures imported, the decrease has been \$1,140,000, while the value of foreign goods imported has increased \$352,000. The exports from Montreal show an increase in 1847 over the previous year, of \$683,000.

#### PRINCIPAL ARTICLES EXPORTED FROM MONTREAL, 1847.

Ashes—Pot.....bbls.....	11,111	Honey.....casks.....	9
“ Pearl.....“.....	4,017	Honey.....bxes.....	28
Apples.....“.....	297	Honey.....cases.....	2
Ale.....hhds.....	2	Lard.....kegs.....	205
Barley.....minots.....	22,847	Linseed.....bbls.....	624
Beef.....tcs.....	89	Indian Meal.....“.....	2,621
Beans.....minots.....	1,587	Oat Meal.....“.....	10,843
Butter.....kegs.....	12,243	Oats.....minots.....	146,154
Cheese.....pkgs.....	261	Pork.....bbls.....	2,010
Corn, Indian.....minots.....	14,511	Peas.....bush.....	9,046
Glass.....bxes.....	370	Seed, Grass.....bbls.....	300
Flour.....bbls.....	281,099	Wheat.....minots.....	1,087,967

The foreign silk trade for 1847 shows a total of imports of 4,425,696 lbs.; consumption, 4,407,908 lbs.; stock on hand, 1st January, 1848, 2,507,878 lbs.; being a decrease of 409,512 lbs. from the consumption of the previous year.

The number of vessels that sailed from the port of Montreal in 1847, were, for Great Britain, 154; Ireland, 13; the Colonies, 36; Oporto, 1; Quebec, 15.

Internal improvements in all the provinces will appear in a general table.

UPPER CANADA.—This province is separated from Lower Canada by the Ottawa river, which empties into the St. Lawrence near Montreal. Of Canada generally, it has been said, that the climate is subject to great extremes of heat and cold; the thermometer ranging between 102° above, and 36° below Fahrenheit; the ground being covered five months in the year with snow. The geographical limits are given from 57° to 90° west longitude, and 42° to 52° north latitude; forming an extent of 1,450 miles from Amherstburg, on Detroit river, south-west, to the Straits of Belleisle on the coast of Labrador. This line embraces the settled portions of the country from Lake Huron to Newfoundland; the whole territory is estimated at from 200 to 400 miles wide. Upper Canada is subdivided into

seventeen districts or counties, viz. :—Eastern, Ottawa, Johnston, Bathurst, Midland, Victoria, Newcastle, Simcoe, Home, Wellington, Gore, Niagara, Talbot, Brock, London, Western, and Huron. The population has increased tenfold in the last forty years, and is still increasing rapidly. From Lake Ontario to Montreal, the St. Lawrence is broken by a succession of rocks and rapids, which render navigation very dangerous. To overcome these obstructions, the Rideau Canal, 135 miles long, affords a passage to boats from the lake, near Kingston, to Bytown, on the Ottawa river, from whence the latter is navigable to Montreal. This canal cost about \$5,000,000, and has 47 locks, 142 feet long by 33 wide. Lakes Erie and Ontario are united by the Welland Canal, 42 miles, to avoid the Falls of Niagara. The descent of the canal, 330 feet, is accomplished by 37 locks, 100 feet in length. The whole work, with great natural difficulties to surmount, cost nearly \$5,000,000. The Lachine Canal, along the side of the St. Lawrence, to avoid a cascade, and the Grenville Canal, on the borders of the Ottawa, for avoiding its rapids, are minor works, though of great importance to navigation.

The growth of Toronto is evidence of prosperity in Upper Canada. In a statistical work of 1817, by Dr. Thomas Rolph, the writer, describing what was then Little York, (now the City of Toronto,) says :

“Its population is 1200 souls; for five miles round the capital of Upper Canada, scarcely one improved farm can be seen in contact with another. The only connected settlement is about five miles to the north of Yonge street; in other directions, so far as the district goes, you might travel to its utmost limits, and not find more than one farm-house for every three miles.”

After quoting the above, in a recent address the mayor of Toronto proceeded :

“Such was little York till about 1835. In 1817, it had no brick houses, no tinued roofs, no planked side-walks; the stumps remained in the streets, and nothing was more common than to see teams mired in them, requiring all the aid that could be obtained to liberate them. What is now the market was a bay, and the fish-market the resort of wild fowls—unhealthy, liable to fever and agues, and all the distressing catalogue of intermittents. No banks; no markets; a very mean building for a church; no common sewers; scarcely a schooner belonging to it, and few frequenting it; no wharfs; not a single importer of British goods; a few, and very few insignificant stores, and a few taverns, offering the worst accommodations. Such was Little York in 1817, now the celebrated city of Toronto. Behold now its 20,000 inhabitants; its rows of splendid brick-built, tin-covered houses; its magnificent churches, and number of places of worship; its banks; its floating palaces; its beautiful schooners; its magnificent stores, some of them rivalling those of the first city in the world, with their plate-glass windows, their spacious areas, and their splendid contents; its hundreds of thousands of annually imported goods; its merchants; its public reading rooms; its Mechanic's Institute; its Board of Trade; its public baths; its splendid avenue, leading to a noble University; its common sewers; its Macadamized streets; its planked side-walks above a mile, or nearer two, from its magnificent market and City Hall, in every street, and leading to almost every house. View its export trade, its wharfs loaded with produce, and crowded with steamboats

and schooners, the daily conveyance of the riches of the neighborhood. Behold its gas-lighted streets at night; and now that greatest of all luxuries—an abundant supply of pure and wholesome water conveyed to every house. Around it and about it, in all directions, fine houses, farms, orchards, villas and roads."

The population of Toronto in 1826 was 1,719, and in 1834, when the city was incorporated, it amounted to 9,654. By the census of 1846, the population is 20,565, of which 8,577 belong to the Church of England, and 4,307 to the Church of Rome. Some twenty other religious denominations divide the balance between them. An increase of ten to one, within twenty years, is almost unprecedented in the population of towns. The city of New-York, which has been regarded as foremost, has not kept equal pace since 1697, when its population was only 4,302. The fertility and healthiness of Upper Canada, and convenient transportation on the lakes and canals, are the chief causes of this prosperity. Much might be said in description of the soil and improvements, together with the general resources of Canada, showing it to be a country capable of sustaining a dense and happy population. Of the Western District, (the peninsula between Lakes Erie and Huron,) Dr. Rolph is enthusiastic in his praise:

"What shall I say?—that there is not in all America a soil so fertile, a climate so pure, scenery more beautiful, properties more reasonable; in fine, where every combination exists to render it the most attractive spot in her Majesty's possessions in America! All this do I say from personal knowledge, and it is a matter of the utmost astonishment that so large a district should remain so neglected and unsettled; for in no portion of Canada could horticulture, floriculture, and agriculture, be prosecuted with more certainty of success than in it. Peaches, plums, peas, apples, melons, grapes, Indian corn, tobacco, and vegetables of every description, grow in an abundance and with a luxuriance that is truly astonishing; and the day cannot be remote when such obvious advantages will attract attention. It is no longer inaccessible from bad roads, and I strongly recommend all who can afford it to pay a visit to it, before they determine where they shall settle when they have resolved on making Canada their home."

The value of imports paying duties in 1846, at Toronto, was \$842,385, exclusive of \$523,000 specie. Total revenue on importations collected during the year, \$162,645. Exports estimated in value, at \$1,505,000, of which the following are the principal:

Articles, &c.	Quantity.	Articles, &c.	Quantity.
Flour.....	bbls. 194,856	Butter.....	kegs 200
Pork.....	" 4,133	Lard.....	" 600
Beef.....	" 80	Starch.....	boxes 600
Timothy seed.....	" 176	White pine boards.....	feet 1,680,000
Wheat.....	bush. 108,116	Bricks.....	No. 1,030,000
Oats.....	" 3,000	Sheep pelts.....	" 10,750
Peas.....	" 1,000	Woollen cloths.....	yards 40,000
Beef.....	tres. 65	Blankets.....	pairs 130
Hams.....	tons 9	Furs and peltries, value	
Horn-tips and scraps.....	" 11	about.....	£2,000
Ashes.....	casks 283	Fresh fish.....	£500

The quantity of flour and wheat exported from the Home District, in 1846, was—



	Flour—bbls.	Wheat—bush.
From Toronto.....	194,886	108,116
" Oshawa.....	34,630	16,560
" Windsor.....	55,460	24,300
" Credit.....	11,450	41,200
Total.....	296,396	190,176

The increase of exports over 1845 is estimated at \$364,840.

Shipping owned on Lake Ontario, and employed in the inland waters of Canada, viz: 57 steamers (two of iron) valued at \$1,750,000; 2 ships, 5 brigantines, and 95 schooners of 30 tons and upwards, \$750,000; 6 lake propellers, \$70,000; 300 barges, \$400,000; 7 river propellers, \$35,000,—small craft under 30 tons, \$85,000. Total, \$3,090,000.

Mills, factories, &c., in the Home District and city of Toronto, viz: 87 grist mills, valued at \$800,000; 196 saw mills, \$276,250; 12 oatmeal mills, \$16,500; 14 foundries, \$100,000; 18 woollen factories, \$125,000; 50 carding machines, \$15,000; 1 edgetool factory, \$10,000; 3 starch factories, \$12,500; 28 distilleries, \$54,125; 6 soap and candle factories, \$21,000; 1 cabinet and chair factory (steam) \$12,500; 3 cabinet and piano-forte factories, \$7,500; 2 paper mills, \$20,000; 36 tanneries, \$75,000; 1 snuff manufactory, \$2,500; 23 breweries, \$66,000;—total value, \$1,613,875.

In June, 1844, a steam schooner made the passage from Toronto to Montreal, 470 miles, laden with freight, in two and a quarter days, over the rapids of the St. Lawrence.

The Provincial Government has applied large sums for internal improvement, as the following grants in 1841, show:

St. Lawrence navigation.....	\$3,458,410	Bridges, slides, &c., on the river Ottawa.....	140,000
Welland Canal.....	2,250,000	Desjardins Canal Company..	112,075
Light-houses, &c., on Lakes Erie and Ontario.....	370,000	Bay of Chaleur's road.....	75,000
Lake St. Peter.....	292,500	Cobourg Harbor Company	26,055
Newcastle District navigation	250,000	Oaksville Harbor Company	18,615
Burlington Bay Canal.....	225,000	Port Harbor Company.....	15,375
Bridges between Quebec and Montreal.....	170,000	Tay Navigation Company...	7,805
Road from Burlington Bay to Port Dover.....	150,000	Road from Ottawa to St. Lawrence.....	7,500
Road from Lake Ontario to Lake Huron.....	150,000		
			<b>\$7,718,335</b>

Prior to the Union of Upper and Lower Canada, in 1841, the Legislature had expended on the improvement of navigable water courses, and in the construction of canals, the following sums:

Welland Canal.....	\$2,314,280	St. Ann's Rapids.....	21,540
St. Lawrence Canal.....	2,200,485	Paris Bridge.....	10,000
Montreal Harbor.....	435,000	Brentford Bridge.....	10,000
Chambly Canal.....	185,000	Dunville Bridge.....	10,000
Trout navigation.....	116,170	Chatham Bridge.....	10,000
Newcastle District.....	108,300	Steam Bridge, Montreal....	7,500
Kettle Creek Harbor.....	37,500	West Gwilliambury Bridge..	4,775
Toronto Harbor.....	26,000		
Trent Bridge.....	24,000		
		(Total, \$13,238,885)....	<b>\$5,520,550</b>

In 1842, the first year after the union, the gross amount of customs collected in Canada was \$1,394,650, viz: at Montreal, \$727,-

255; Quebec, \$340,000; St. John's, \$84,320; Toronto, \$40,265; Burlington Bay, \$56,315; Kingston, \$32,550;—other ports, smaller sums. The increase of revenue from customs over 1841, was \$304,453. At Quebec and Montreal alone the increase was \$276,630. The tolls on the Lachine Canal produced during the year, \$81,610.

The public debt of Canada amounts to \$12,000,000; the revenue to about \$2,600,000, and expenditures to \$3,000,000 annually. Some retrenchment is necessary to equalize the financial system, otherwise it will create an irredeemable liability, draining the people by taxation, as in the mother-country, to pay interest. The government of Canada devotes from \$300,000 to \$500,000 annually to the support of schools.

**NEW-BRUNSWICK.**—The north-east boundary question, which so long agitated the counsels of Great Britain and the United States, concerned the province of New-Brunswick on the one part and the state of Maine on the other. In 1842, it was amicably settled by the Ashburton treaty. The line established does not materially differ from that awarded by the King of the Netherlands. We have seen a calculation of the disputed territory, allowing it to contain 12,027 square miles, of which, by the treaty of 1842, the United States obtained 7,015, and England 5,012. By the line of the King of the Netherlands, the United States would have had 7,908, and England 4,119 square miles. Whatever the claims of either power, they have been adjusted in a satisfactory and honorable manner, so as to admit no future contention.

The province is laid off into twelve counties, of which we subjoin a table, showing the quantity of granted and vacant land in each, and also the number of persons who have squatted on crown lands, to 1842, without authority, the acres occupied by them, and estimated value,—

Counties.	Granted and located acres.	Vacant acres.	Squatters. No.	Occupied acres.	Value. dollars.
Nothumberland.....	984,000	2,216,000	174	17,400	13,050
York.....	921,000	1,280,000	142	14,200	10,650
Westmoreland.....	780,000	532,000	166	16,600	12,450
Kings.....	605,920	244,000	145	14,500	10,875
Carleton.....	504,000	2,038,000	122	12,200	9,150
Queens.....	491,280	470,000	139	13,900	10,425
Sunbury.....	369,080	413,000	95	9,500	7,125
Kent.....	354,000	552,400	132	13,200	9,900
Gloucester.....	324,000	713,440	199	19,900	14,925
Charlotte.....	303,360	430,000	142	14,200	10,650
St. John.....	238,720	126,000	62	6,200	4,650
Restigouche.....	152,000	1,114,560	82	8,200	6,150
	6,077,960	10,129,400	1,600	160,000	120,000

The New-Brunswick and Nova Scotia Land Company have taken 500,000 acres between Nashwach and Miramichi rivers, which they offer in 100 tracts to settlers, at \$1.50 per acre, payable in eleven annual instalments, without interest. The lands in general are good, and roads have been opened in different directions across them. It

is recommended that emigrants unite, forty or fifty together, and send an agent in advance to select their lands, and make temporary provision for their arrival. Young men usually hire on a farm, or to a lumbering party during the summer when wages are high, and work on their own land in winter, supposing they have saved money enough in the first two or three years to purchase a tract. Then they marry, and push their fortunes as best they can. Young women find employment both in the town and in the country at two and three dollars per month.

Referring to the necessity and benefits of emigration to New-Brunswick, Dr. Gesner says :

"In the old country, early marriages are discouraged, because they contribute to an increase of numbers, and, consequently, of misery. In the North American Colonies they are viewed as being advantageous, from the accession they make to the population; and the birth of a child in the backwoods is hailed with more than ordinary natural joy, because, by the labor of his offspring, the capital of the colonial settler is increased."

Farther, he remarks :

"A due regard should always be had to the habits and kind of industry the emigrants have been trained to. Serious blunders have been committed, by locating people who had been brought up to fishing, in the forests remote from the sea,—and also by establishing families who had been bred to husbandry, upon a coast or river, where a part of their subsistence must necessarily be drawn from the water. The adopted home of every family brought across the Atlantic should correspond as nearly as possible with their former residence, and their pursuits should deviate as little as possible from those to which they are accustomed."

A number of instances are stated, where individuals, poor and friendless, but with manly resolution, have gone into the forest, and by patient industry have accumulated snug fortunes. Dr. Gesner relates a very interesting case, on a small scale :

"J. G., in the county of Gloucester, took possession of a lot of land on the 16th May, 1832; in the same season he cleared ground from which he raised eighty bushels of potatoes, ten bushels of turnips, and ten of buck-wheat. With these, and the fish he took upon the shore, and five bushels of wheat paid for in labor, he maintained his family, (a wife and two children,) until the second, and a much larger crop was obtained. In the first year he built a log-house and a hovel for a cow, and chopped eight acres; in 1843 he raised eighty bushels of wheat, one hundred of oats, five hundred of potatoes, ten of barley, twenty-five tons of hay, kept ten head of horned cattle and two horses, and was in independent and most comfortable circumstances."

The forests of New-Brunswick constitute much of its trade and wealth. Its position, between 45° and 48° north latitude, is peculiarly suited to the growth of valuable timber trees. Mr. Perley, the government emigrating agent, has described and classified them in a report of much length. We barely have space to enumerate them by their common names, viz: the Oak, two species, gray and red; Maple, white, red-flowering, sugar, moose, mountain; Birch, canoe, white, yellow, black; Cherry, wild, northern; Poplar,

balsam, American aspen; Beech, white, red; Hornbeam, American, ironwood; Ash, white, black; Willow, black, champlain, shining; Elm, white, red; Pine, red, gray, white; Spruce, black, white, hemlock, American silver fir; Alder, common, black; Walnut; Dog Wood; Cypress or White Cedar.

This variety, found in almost inexhaustible profusion, affords the labor of man a wide field and sure reward. Bonnycastle, speaking of the forests of Canada and New-Brunswick, indulges in some beautiful reflections, which we copy :

"I know of nothing in this world capable of exciting emotions of wonder and adoration more directly, than to travel along through its forests. Pines, lifting their hoary tops beyond man's vision, unless he incline his head so far backwards as to be painful to his organization, with trunks which require fathoms of line to span them; oaks, of the most gigantic form; the immense and graceful weeping elm; enormous poplars, whose magnitude must be seen to be conceived; lindens, equally vast; walnut trees of immense size; the beautiful birch and the wild cherry, large enough to make tables and furniture of. Oh! the gloom and the glory of these forests, and the deep reflection that, since they were created by the divine fiat, civilized man has never desecrated them with his unsparing devastations; that a peculiar race, born for these solitudes, once dwelt amid their shades, living as Nature's woodland children, until a more subtle being than the serpent of Eden crept amongst them, and, with his glittering novelties and dangerous beauty, caused their total annihilation! I see, in spirit, the red-hunter, lofty, fearless and stern, stalking in his painted nudity, and displaying a form which Apollo might have envied, amidst the everlasting and silent woods. I see, in spirit, the bearded stranger from the rising sun, with his deadly arms and his more deadly fire-water, conversing with his savage fellow, and displaying the envied wealth of gorgeous beads and of gaudy clothing."

The fancy sketch, so far as applicable to the Indians of New-Brunswick, will justify a brief allusion to them. They are now reduced to two tribes, numbering 1,377,—the Micmacs, 935, and Milicates, 447. Both inhabit the same district, yet cannot understand each other's language. Fourteen tracts of land, containing 61,273 acres, have been reserved in different parts of the province for their use, and which they are permitted to occupy during pleasure. Like most other red men, they resist all progress. Dr. Gesner says:

"The Indian naturally despises the refinements of civilization; he looks upon the forest as his home, and ever longs for wild adventure. Much pains have been taken to improve the condition of these people. Young children have been taken, with their parents, and educated with much care. They have been instructed in the arts and agriculture; but no sooner were they liberated from their masters, than they returned to the haunts and habits of their forefathers, and became the most depraved of all their race. By associating and laboring with the inhabitants of the Province, they have advanced slowly in agriculture, and a few families may be found who support themselves comfortably by their own exertions. But their intercourse with the whites has always been the introduction to intemperance, disease, and idleness; and if we judge by the rapid decline in their numbers since the country was colonized, there is reason to fear that the day of their arrival at an ordinary degree of civilization will not long pre-



cede the day when the names of their races will be blotted from the pages of American history."

In the seven ports of entry,—St. Johns, Miramichi, Dalhousie, Bathurst, Caraquet, Richibucto and Dorchester, the imports in 1844 amounted to \$4,083,710, being an increase of \$1,058,135 over the previous year. The exports for 1844 were, in quantity, as follows: Timber, 190,320 tons; deals, M. feet, 108,424; boards, M. feet, 844; shingles, Mds., 7,042; staves, 48,612; masts and spars, 5,538; small poles, 8,455; hand-spikes, 273; oars, 3,053; tree-nails, 58,420; lathwood, 3,424 cords; laths, 1,774 Mds.; pickled salmon, 2,479 bbls.,—6,419 kits; smoked salmon, 406 boxes; mackerel, 24 bbls.; dried fish, 12,405 quintals; alewives, salted, 16,229 bbls.; shad, salted, 117 bbls.; codfish, pickled, 214 bbls.; herring, salted, 1,754 bbls.; herring, smoked, 7,308 boxes; potatoes, 12,782 bushels; lime, 1,470 hhds.; furs, 14 packages; oil, seal, 240 galls.,—cod, 5,744 galls.; grindstones, 3,870,—gypsum, 388 tons.

Some estimate may be formed of the product of the fisheries, by the exports of fish and oil from the port of St. Johns in 1839, which amounted to \$281,545. The yield, however, is fluctuating, as in 1845 it was only \$108,485 for the whole province. Many disputes have arisen, as to the right of citizens of the United States to fish within three miles of the coast, under the treaty of 1783 and convention of 1818. The British allege that all fishing by foreigners, within that line, is a trespass; and notes have passed on the subject between the cabinets at London and Washington. In 1841, Mr. Stevenson complained of certain seizures of American fishing vessels by provincial authority. The British Colonial Secretary insisted upon the exclusion, not only from three miles, following the indentations of the shore, but by a line drawn from the headlands, or extreme points of land next the sea. Nothing farther was done, and we presume this construction has been acquiesced in by our government.

The shipping of New-Brunswick in 1844 consisted of 672 vessels, with a tonnage of 92,210, manned by 3,917 men.

Turning from dry details, we beg to amuse our readers with an extract from the book of Dr. Gesner, which shows that even the people of New-Orleans, in mosquito time, are highly blessed in comparison with the citizens of New-Brunswick. Dr. G. says,—

"A long chapter might be written on the biting and stinging insects that infest the woods during the summer months. In the heat of the day black flies bid defiance to mosquito nets, ointments, and every kind of cosmetic. No sooner had we landed than the blood began to flow down our faces from the bites of these merciless tormentors. At sunset the unseen midge commences operations, and the more musical mosquito begins to sing and perforate the skin with his blood-pump. A Yankee backwoodsman told us that he could 'stand the mosquitoes and black flies, but as to the midges, he despised them.' We, however, found that our estimation of these sweet creatures had little influence on their biting propensities; the only remedy for them is to stand in a thick smoke of cedar bark. This, it is true, is somewhat inconvenient for those who put a high value upon a fine complexion, as the skin thus smoked soon resembles a

piece of Irish bacon. In some of the low, swampy grounds, the mosquitoes are so numerous, that they are inhaled by every breath drawn by the traveller. Each of our party were compelled to carry a large torch of cedar bark, and the constant flourishing of these smoking fire-brands around our heads reminded me of the menaces made by an Irish mob with their shillelahs."

With regard to the geology of New-Brunswick, very little is known for want of adequate explorations. Limestone appears to be the prevailing feature. Coal is abundant, and is wrought, near the Grand Lake, by a joint-stock company. Iron and gypsum are also found in large quantities. The climate is similar to that of Canada,—winter lasting from November to April. Agriculture is depressed by the fisheries and timber trade—the latter producing habits of a deplorable kind. The lumberers have been described as the pests of a colony, "made and kept vicious by the very trade by which they live." The population consists mainly of English, Irish, Welsh and Scotch, with three small settlements of French on the east side of the colony. Besides a regular army paid by England, the native militia is about 25,000 strong.

Education is liberally provided for at the public expense,—there being about 500 schools for elementary instruction, attended by 8,000 boys and 6,000 girls. King's College, at Fredericton, was established by the exertions of Sir Howard Douglas, governor from 1824 to 1831, and is chiefly maintained by an annual grant of \$10,000 from the local government.

NOVA SCOTIA.—Of all the British colonies north of the United States, Nova Scotia is the most densely populated. By a low, sandy isthmus, only fourteen miles across, it is connected with New-Brunswick on the west, and separated from Cape Breton on the north by the narrow strait called the Gut of Cansaw. The climate is much like that of Lower Canada, varying from 95°, extreme heat, to 10° below zero, and at times as much as 50° and 60° in twenty-four hours. The warmth of summer occupies about three months, beginning with June. The fair and wet days are in the proportion of eight to five. In most other countries, sudden changes of temperature affect the general health. Not so in Nova Scotia. The complaints most prevalent are rheumatic and inflammatory. Intermittent fevers are wholly unknown; typhus occurs only in a mitigated form, and the ravages of the yellow fever have never been felt.

There is a degree of romance connected with Nova Scotia, which tempts us to give a few particulars. To promote colonization in America, Charles I, in 1625, granted several of his barons large districts of land in Nova Scotia, which should enure to them in fee, on settling a certain number of persons in the colony. These grants subsequently amounted to one hundred and eleven, of 16,000 acres each. The terms were modified by sundry royal acts, and the whole affair seems to have slept for more than two centuries, without any positive fulfilment. At length old dusty parchments were evoked, and in November, 1844, a meeting of the Hereditary Order of New-

Scotland took place in Edinburgh. A report was submitted, sustaining the claims of the nobility to the possessions conceded by the crown, and denying all fraud and forfeiture. The speech of Sir Richard Brown on the occasion, is a compact and ingenious defence of the barons. After dealing freely with the industrial and pauper statistics of Great Britain, so far as his object made it necessary, he aims a blow at the United States, accompanied with information entirely new to our people, and we venture to say, unsupported by facts.

Sir Richard is striving to arouse emigration to Nova Scotia, so that the wilderness acres of the nobility may be turned into fruitful fields, with rents fit for the Order! He has quarrelled with the British system of labor and compensation, and, as a remedy, points to the new world. There, under the rule of titled proprietors, the working classes are to find plenty, and all the blessings of life, in return for moderate toil. In the effort of Sir Richard, there is such a thorough, bold and vigorous assault upon the social platform of his own country, that we almost pardon his misguided zeal when directed against our republican form of government. To the charge of combination, which he prefers with pompous particularity, and the secret oath having the overthrow of British dominion in America firmly at bottom, we record as complete a negative as the greatest stickler for certainty could desire. Some experiment must have been made in his imagination. Louisiana is in the catalogue as having eleven lodges at work to accomplish the plot! In the border states—Maine, Vermont and New-York, it is possible a few sympathizers with McKenzie may have instituted a league, under obligations, to revolutionize Canada; but the idea that eighteen other states, some of them two thousand miles from the scene of action, engaged in it with solemnity, is too ridiculous to deceive any mind.

We quote from the speech of Sir Richard :

"In the United Kingdom, exclusive of 1,300,000 English paupers who receive legal relief, we have an average of more than one-fifth of the population unable to live by lawful industry—that is to say, 5,400,000 souls. But these figures added together, namely, 6,700,000, exhibit by no means the most revolting features in the social aspect of the present age. Out of a population living by wages—upon the fruit of their daily, aye, and often nightly toil—a large number may be considered paupers in every sense of that term,—their average earnings per head not exceeding 8 shillings a week. Are microscopes needed to perceive the filth, the privation, the cold, the hunger, the thirst, the nakedness, the crime, the sickness, the mortality of such a condition as this? 'It has created in the British Islands,' says an intelligent foreign writer who has recently gone through the length and breadth of the land, 'a reality of misery, depravity, and every hideous form of human suffering, which surpasses anything that the imagination of a Dante ever conceived in describing the abode of devils and the torments of the damned!' Turn we then from this great intestinal worm—this *anguis pectoris*—which is living and feeding, and growing daily upon the vitals of the British nation, to consider for an instant that other and scarcely less fearful sources of hostility centered in our own loins, and ever active in these crowned isles, though chiefly domiciled in what was England's other self, her name-daughter and her glory in the western

world—I mean Republicanism. This is the generic title of an aggregate of feelings, each pre-eminently militant to our national security, to our commercial prosperity, to our strength as a maritime and colonial power, and to our very existence as a monarchical state. It has already indicated itself, and it does now indicate itself, by a variety of acts, all aiming at one grand consummation—the breaking up of our territorial supremacy and institutional power. We scarcely sheathed the sword which its development in the Canadas caused us to wield in 1837 and 1838, when it glutted itself with some million acres of our land in the province of New Brunswick, being one of nine unprincipled concessions of a similar kind which we have progressively yielded since the year 1798. Since then the United States have either founded or multiplied Hunter Lodges as follows: In Massachusetts, 89; in Rhode-Island, 15; in Connecticut, 68; in Maine, 99; in Vermont, 107; in New-York, 283; in Michigan, 54; in Wisconsin, 7; in Illinois, 21; in Indiana, 14; in Ohio, 86; in Pennsylvania, 49; in Kentucky, 11; in Virginia, 21; in Maryland, 16; in Delaware, 2; in New-Jersey, 17; in Missouri, 39; in Iowa, 3; in Louisiana, 11; in New-Hampshire, 78; in Lower Canada, nearly the whole of the French population; in Upper Canada, 84; in New-Brunswick, a few, and in the other parts of the United States not mentioned nearly 100. The number of members taken at a minimum, may be fairly calculated to be not less than 80,000 able bodied men; and their objects are exposed in the oath which is administered on their admission. ‘I swear to do my utmost to promote republican institutions and ideas throughout the world—to cherish them, to defend them, and especially to devote myself to the propagation, protection and defence of these institutions in North America. I pledge my life, my property, and my honor to the Association. I bind myself to its interests. And I promise until death that I will attack, combat, and help to destroy, by all means that my superior may think proper, and especially never to rest till the British tyrants cease to have any possession or footing whatsoever in North America. So help me God.’ ”

More than a dozen resolutions were adopted at the Edinburgh meeting, one of which we copy, as indicating the objects to be attained by the whole:

“10. *Resolved*, That with the farther view of combining the influence and exertions of all parties, on either side of the Atlantic, having an interest in, or favorable to, the revival of the rights and objects of the Baronetage of Scotland and Nova Scotia—promoting the systematic colonization of British North America—raising the capital for these national ends—and otherwise superintending and managing the common properties and estates of such Baronets, and other landed proprietors in the Colonies, as shall join it, this meeting sanctions the formation, and approves the principles of ‘The Scottish Company for advancing the Plantation of Nova Scotia and Canada;’ the Baronets present, and those concurring by letter, agreeing, as soon as 10,000 shares are subscribed for by responsible parties, and the first instalments paid, to vest their lands in it, either in whole or in part, taking shares for the same,—further pledging themselves, on the Company’s coming into practical operation, to use every possible means in their power to settle the estates, baronies and regalities forming its territory, with such of their friends, clansmen, tenantry, retainers, and others, as may be disposed to rent farms of the company under improving leases.”

What active measures have been taken to carry this scheme into



effect, we are not advised. In a government of classes like that of Great Britain, the system proposed would ameliorate the condition of the laboring poor, by reducing their numbers in the old country, and opening new avenues to emigrants. There is a boundless, teeming field for husbandry in the land to which colonization is invited. Support is easily obtained from forest and sea.

Halifax is the capital of Nova Scotia, and affords the best harbor in British America—a sheet of water equal to ten square miles, completely land-blocked, and capable of containing the whole British navy. The harbor is accessible at all seasons, and its navigation is scarcely ever interrupted by ice. A canal, to which the legislature contributed \$75,000, has been finished by a joint-stock company, connecting the harbor of Halifax with Cobequid bay and the bay of Fundy. The exports of mackerel in 1844, amounted to 71,854 bbls., showing a progressive increase over the five years preceding—from 19,127 barrels in 1839; 25,010 in 1840; 25,031 in 1841; 54,158 in 1842, and 64,376 in 1843.

In 1836, the ships entering the ports of Nova Scotia, were 3,404—tonnage 381,133; and those clearing were 4,574, with a tonnage of 294,520.

The principal articles exported from Nova Scotia in 1836 were, in quantity and value, the following:

Beef and Pork.....	lbs	6,880.....	\$86,035
Coals.....	tons	42,587.....	191,640
Corn and Meal.....			94,900
Fish—Cod, dry.....	quintals	221,509.....	595,270
do wet.....	"	37,133.....	150,485
Other sorts of Fish.....			40,265
Gypsum.....	tons	31,489.....	70,825
Oil, train and sperm.....	galls.	224,967.....	145,025
Whalebone.....	lbs.	21,000.....	3,500
Pine Timber.....	tons	15,523.....	73,735
Deals and Planks.....			266,720
Other sorts of wood.....			237,645
Miscellaneous.....			274,445
			\$2,230,455

Halifax has a few manufactures, mostly for immediate consumption, such as soap, candles, leather, paper, snuff, rum, gin, whiskey, porter, ale and refined sugar. There are two private banking companies in the town, and a chamber of commerce of fifteen members. The New-York, Boston, Liverpool and West India steam-packets touch regularly at Halifax.

Nova Scotia has the elements of much wealth,—possessing coal and plaster of paris abundantly, and a fertile soil. The bay of Fundy is noted for its tides, which rise 50, 60 and even 70 feet, and so rapidly, that cattle feeding on the shore are often overtaken and drowned. About one-fourth of the population is of Scottish origin, and the rest chiefly from England and Ireland, some from New-England.

NEWFOUNDLAND, the great fishing island of North America, is about 350 miles long, and 150 average width, lying between parallels 46° and 51° north latitude. The surface is broken, wild and

rugged, covered, to a large extent, with lakes, marshes and scrubby trees. Only two streams are navigable, the Humber, and river of Exploits. Granite prevails, and also limited coal and iron formations, hardly paying the work. Spruce, birch and larch are the principal forest trees. There is but little wood of any value on the island, scarcely enough for its own consumption. The best soil is along the rivers, and at the head of the bays. Grain crops are moderate; potatoes succeed best. Among the wild animals, are deer, foxes, bears, wolves, and beaver, which are mostly hunted by the Indians from Labrador.

What constitutes Newfoundland a place of note, are the immense fishing grounds by which it is surrounded; it has little or no other resources. The ice fields on the coast, at the close of winter, are of incredible magnitude, often extending 300 miles from the land into the ocean, with peaks resembling mountains covered with snow. These float at random, to the great hazard of vessels, either hemming them in for months, or crushing them by contact. Every spring a number of foreign ships are lost in the ice. Crews have left their vessels locked fast, and walked over the ice for miles to the shore, to avoid perishing.

The seal fishery is prosecuted with much success—800,000 seals being an average taking every spring, on the ice, where they resort in countless numbers. They are usually killed by a blow upon the head—the fat and skin saved, worth from \$2 to \$3 per animal. In six weeks, a man frequently kills enough to enable him to live a year on the profits. The risk in hunting seals is so imminent, that it has been called a lottery, owing to the ice and other perils. With good fortune, a merchant fitting out five or six vessels, will clear \$10,000 upon the cargo of each, in one season.

In the months of June, July and August the heat is intense—80° and 90° of Fahrenheit at eight o'clock in the evening. Mosquitoes and other biting insects are terribly abundant. A writer who went trouting was so stung, that he kept his bed three days, unable to see, from the effects. His great consolation was, that in six hours he killed thirty dozen trout with rod and line. He also comforted himself with the privilege of shooting all kinds of game, from the partridge and fox, to the bear and snipe—no laws to the contrary. These are the only amusements in summer. In regard to a colder period, we quote his own words:—

“You can form no idea of a Newfoundland winter—for months, nothing to be seen but frost and snow. We have usually a heavy fall of snow early in January, which will lie on the ground till spring; this becomes frozen, and is as hard as ice. You will see as much snow fall in an hour as will lie six to seven feet deep; and often, after a few hours' snowing, you will require to dig yourself out of doors. Then is the time for fun in sleighing, the favorite amusement of the country. You may go for miles and miles over fields of frozen snow, across ponds and rivers, in your sleigh, without the least fear of danger. The sleighs are drawn by dogs and horses, around the necks of which are hung bells as a preventive for running foul of each other, as they make not the least noise in moving along, and travel at a very rapid rate. The sleighs are usually painted in

very gaudy colors, and are covered with furs of various descriptions; the horses are dressed in like manner. You will see vast numbers of these vehicles running in procession, each one armed with an immense ring of bells."

It has been supposed that the Norwegians discovered Newfoundland, in the eleventh century; but, if so, it was subsequently forgotten, till John Cabot visited it in 1497, and gave it its present name. In 1500, the Portuguese and French carried on an extensive fishery on the neighboring banks. No permanent colony was established until 1623, when Lord Baltimore took possession of the south-east part of the island, and appointed his son governor. The subject of fishery rights has been a vexed question between the British, French, and United States governments; the people of each occupying at pleasure, especially along the Grand Bank, which affords room enough for millions of laborers, and is not included in any treaty stipulations.

The greatest production of the fisheries in any one year, was in 1814, when the exports amounted to \$13,000,000; but the English part of the business has since declined, so that for the years 1837-38-39 it averaged only \$2,500,000. Number of boats employed, 6,159.

From 1830 to 1843, inclusive, the seal fishery employed the following annual outfit from the port of St. John's:—

Year.	Vessels.	Tons.	Men.	Year.	Vessels.	Tons.	Men.
1830.....	92.....	6,198.....	1,935	1837.....	121.....	10,648.....	29,40
1831.....	118.....	8,046.....	2,578	1838.....	110.....	9,300.....	2,526
1832.....	153.....	11,462.....	3,204	1839.....	76.....	6,417.....	2,029
1833.....	106.....	8,665.....	2,964	1840.....	75.....	6,190.....	2,058
1834.....	125.....	11,020.....	2,910	1841.....	72.....	5,695.....	2,078
1835.....	120.....	11,167.....	2,912	1842.....	74.....	6,035.....	2,054
1836.....	126.....	11,425.....	2,855	1843.....	106.....	9,625.....	3,175

The value of exports from St. John's, for five years, is given as follows:

Year.	Dried Fish.	Oils.	Seal Skins.	Salmon.	Herrings.	Total.
1838.....	\$2,423,245	1,247,140	152,370	66,550	53,615	\$3,889,305
1839.....	2,540,785	1,226,345	231,680	59,810	69,200	4,058,620
1840.....	2,881,225	1,525,985	197,040	64,695	45,180	4,714,125
1841.....	3,025,020	1,334,160	149,505	61,510	31,895	5,602,300
1842.....	2,809,750	1,666,565	116,000	68,390	35,595	4,196,300

The imports at St. John's, for 1842, amounted to \$3,471,675.

NEW-BRITAIN, stretching from Labrador on the Atlantic, to New-Archangel on the Pacific Ocean, a distance greater than from New-York to Astoria, is the vast possession of Great Britain, north of the Canadas. It extends from 50° to 70° north latitude. The soil is so rocky and thin, that only moss, shrubs, and a few stunted trees can grow upon it. Numerous lakes and ponds of fresh water are almost everywhere scattered over the surface. Bears, beaver, deer, raccoons, and other animals, valuable for their skins and fur, abound, and hunting them is the chief employment of the inhabitants. The Hudson's Bay Company have established the only civilized settlements: Forts Albany, Churchill, Reliance, York, and a few others. This company was incorporated by a charter from Charles II., in 1669. In 1837, the principal furs offered for sale were beaver skins,

82,927; marten, 156,168; fox, 25,000; musquash, 838,550; lynx, 31,887; mink, 27,570; an amount larger than that of several years immediately preceding. The company in the same year exported 1,259,000 goose and swan quills, 461 lbs. sea-horse teeth, besides castor, isinglass, and other articles. The trade at the forts consists in the exchange of blankets, powder, beads and trinkets, with the savages for furs, in search of which agents are sent in every direction.

A country so cold and barren has no improvements worthy of note. The Indian tribes and the fur traders doze away life in camp, animated occasionally by a little traffic with each other. A description of the bays and straits from Belleisle to the mouth of Mackenzie's river, in the Arctic Ocean, would be the most we could furnish our readers relative to this wild desert, a task already better performed by Morse and other geographers.

In the exhibition of facts touching British America, we have endeavored to compress, without groping in the fog of regulations from the mother country, which are about as dense and impenetrable as the atmosphere of the Newfoundland coast, on a calm morning in autumn. While something has been done to improve the condition of her laboring poor, by colonizing, Great Britain has the scope, in her North American provinces, to achieve a hundred-fold more than she has attempted.

### Art. III.—THE VINE CULTURE AT THE SOUTH.

[We have on frequent occasions, in the 2d, 3d, 4th, and 5th volumes of the Commercial Review, referred elaborately to the product and manufacture of wines in our own country, and furnished full and elaborate papers from various sources upon the subject. Our desire has ever been to present the matter with the utmost fullness and fairness. In this view we publish the following letter.

In regard to the specimen bottles of wine referred to by our friend, which he kindly forwarded to our address, we received and discussed them. Nothing could be conceived more exquisite than the flavor it possesses; and a gentleman who has travelled extensively in Europe, to whom we generously accorded a few sips of the nectar, conceived that nothing he has met with upon the Rhine could compare with it! He was in extacies. *So were we.*

Our friend, Mr. Weller, of North Carolina, sent us some time ago, several delightful specimens from his vine-yard, and we well remember the pleasure with which a party of our friends, on the Fourth of July, decanted glass after glass, to the health of the "old North State," and her neighbor to the southward.]

J. D. B. DE BOW, Esq.:

As I am deeply interested in the prosperity of the vine culture of the South, and seeing an article in your number for January last that tends to create a strong dislike to the use of wine, I have at length thought proper to correct it, and in doing so, I wish you to understand that I do not attach the slightest blame to yourself. The article in question I wish to refer you to, is on the 25th page of your January number, 1848, headed "American wines and vines." Mr. S. Weller, of Carolina, states that a good wine cannot be made without the aid of three pounds of sugar per gallon, or one-third part of spirits. Now I have no doubt as to Mr. Weller's statements



being strictly correct, as far as his experience in that climate and in the section of country in which he resides goes. As I have had the advantage of some years' correspondence with Mr. Weller, I have formed a very high opinion of him as a vintner; but his statistics for the Carolinas, when applied to our warmer states, will have no application. When he sees from the following the superior quality of fruit produced here from the same grape he cultivates in Carolina, he must readily account for the different results I am about to show in the manufacturing of wine in Mississippi. I have sent you two small bottles of this wine that you may examine it, in company with two or three of the best judges of your acquaintance, and make what remarks you think best upon it. The opinion entertained by myself and friends here of this wine, is exceedingly flattering. We believe it possesses the qualities of three of the finest wines in the world, namely, Champaigne, Muscat and Hock, (3 parts of the first named, 2 parts of the second, and 1 of the last named wines.) A very small quantity of sugar was put into this, and I think it would have been much better without. Not one particle of spirits of any kind whatever has been mixed with it, and I think the smallest portion would have destroyed its delicacy and picquant force so desirable to connoisseurs. By the bye, I am saying too much myself about this wine when seeking the opinion of others; but I hope to have the opinion of yourself and friends entirely apart from all that I have said. One thing more I must say with regard to its condition; it was made last September—was only six months in cask, (instead of two years,) and has been but four months in bottle, when it ought to have been a year before it was examined; you will make every allowance for such disadvantages, of course. While my object in writing you this letter is to remove the unfavorable impression Mr. Weller's letter must have made on the public, I wish also to say a few words upon the culture and the extension of the wine cause. We shall soon find in this country, as they have so long found it in Europe, that some neighborhoods are famous for wines, for richness and delicacy of flavor, that no other wines can equal. As they cannot be transported to any great distance without the aid of spirits, we must be deprived of their use. This wine, though so lusciously delicate, possesses a body of the stronger conserve, and will allow of being transported to any inland distance when properly packed; but to enjoy all its qualities, the growth will have to be confined to a few of our Southern states, such as this state, Louisiana, Alabama and the Floridas.

**GRAPE CULTURE.**—As it would be vain in me to mark out a course of habits and a form of diet followed by any one nation, and rigidly enforce it to the use of all, so it would be equally vain to recommend the plan of culture of one kind of grape to be adopted for all, or that of one climate in the states to be followed in all the Union. I shall therefore confine myself to a course of culture necessary to be applied to the grape I have adopted in my vineyards, and the treatment I conceive to be best in the states above named. After failing in

upwards of fifty varieties, and abandoning them as useless, I have selected one called the Roanoke, and known by that name from the time it was discovered on the island of Roanoke down to a recent period, when it took the foolish name of Scuppernong, which it now holds in the Carolinas. I have made three different kinds of wine from this grape last year, and all equally good, although differing in flavor and color so much, that no one could judge they were made from the same fruit. The Greeks call this grape the Flearic, and insist upon it as the one from which they make the choicest wines of that country. A Greek gentleman of my acquaintance in Natchez, last summer, in company with a countryman of his, paid me a visit for the first time, to see my vineyard. The fruit was not then ripe; but the moment he fixed his eyes on the grape, he recognised it as an old friend. He told me more of its properties as a wine grape than I have been able to learn from any other source; and the information I derived from him was of much use to me during my last vintage, and also at the bottling of the wine last spring. I think it pretty certain that this grape is a native of a very different climate than Carolina, as it does so much better in this climate. The following facts go much to show this, as I cannot claim, as the result of management, all the difference produced here. Climate must be important. A writer on this grape in that country about 25 years since, gave a very excellent description of it. He stated that the size of the berries did not exceed more than  $2\frac{1}{2}$  inches round, and in weight not exceeding 82 grains. Now it is common for me to have fruit to measure  $3\frac{1}{2}$  inches round, and at times more, and weigh 150 grains to the single berry. The fruit has always been ripe here the last of August, long before the hot weather has subsided, giving every chance to the grape to acquire all the saccharine so essential to strength and body. Thus the wine does not require the aid of sugar or the smallest particle of spirits to give it conserve. It is not so in Carolina. There it does not mature its fruit until October, and by that time its maturity is checked by more or less cold weather, and, as Mr. Weller says, about a fourth, or if a strong wine be wanted, a third of good spirits must be mixed with the juice. Now the admixture of spirits destroys the delightful bouquet and picquant force that characterizes the wine I have sent you, and, in fact, all the wines I have ever made here.

The treatment I pursue in the culture of this grape is different from that used in all other kinds. I apply no summer pruning whatever, other than to tie up all the branches of a growth in order to prevent the ill effects of wind. At the first planting I set out well-rooted plants of one season's growth from layers, as this grape will not grow from cuttings. These are planted twenty feet apart, in straight lines, attached to a stake five feet high. As soon as they shed their leaves in the fall, all the tendrils or claspers they have made must be removed, except those that take hold of the stake; for if any are allowed to remain clasping their own branches a second year, the branch will die above the grasp, as the claspers will have ceased to grow and become as hard as wire.

On the first dry weather, late in December or early in January, I cut off all branches that may be in the way the next season, and all dead wood, if any, and any tendrils found clasping a branch that may have escaped notice before. In removing the branches, I take care to cut close to the stem from which they are taken, as the bark will then slip over more readily when it begins to grow. These operations close the first season. I commence the second by driving down additional stakes on each side, in a straight line with the first, at proper distances to receive the lateral or side branches that have been formed. I then nail across, in a horizontal line, and about nine inches apart, cane poles to receive the small upright branches of the next season's growth—at all times taking care to keep the mother or main stem upright at the centre stake, and adding to the height of that stake as often as it requires. After this work is performed—which we call dressing—I proceed to hoe and rake the ground about the vines, regarding it unnecessary to clean or plough the whole of the vineyard until the third or fourth year, since the roots will not extend from plant to plant until after that time. I proceed the third season in the same manner as the second, adding stake behind stake, in a straight line, and poles, until the vines, planted twenty feet apart, touch each other. This kind of trellis training is cheapest and much the best until the vineyard has established a good growth. A cheap arbor can then be erected by setting up strong rough posts eight or ten feet high, and throwing rough rails from post to post. Cane poles may then be placed across for the vines to run on. From year to year extend the growth at the top, and diminish that below, by cutting out the lower branches. This plan will tend to give a moderate excitement in the circulation of the sap, as well as to improve the fructifying powers of the plant.

I am not sufficiently acquainted with chemistry to be able to give a proper description of the soil of my vineyard, but, as far as I can judge, it is principally composed of a light yellow loam with a small quantity of sand, and a still smaller portion of lime. But whatever may be its quality, thousands of acres lie almost abandoned as useless, having been exhausted by the constant succession of crops of corn and cotton. I do not pretend that this worn-out land is exactly fitted for the reception of the grape in its present condition, but all it requires is a small portion of sand and rotten log, or black soil, or stable manure, mixed up and spaded in well with the natural soil, in the places where each vine is planted. This gives it a start, and it will soon find the way into the natural soil and thrive in it, by the aid of the smallest portion of compost raked into the surface every fall.

Inquiries are often made in regard to the probable profits of a vineyard; and as mine are too young to estimate by as yet, I would prefer not to give an opinion, but refer all inquirers to Mr. Weller's letter to which I have alluded.\* No one can be better qualified than that gentleman to give an opinion.

I promised to say something on the extension of the wine cause in this neighborhood. My success has already given such a different

\* See Commercial Review, vol. V, pp. 28-9.

coloring to the wine business here, that three new vineyards are to be planted out next fall within three miles of my place; and I am willing to wager that there will be twenty planted in this county within the next five years, though there are now only two in existence, and these owned by myself. As soon as it is believed that a grape has been found that will produce a crop every year, the business will make most rapid strides. I have several orders on my books already for wines next fall, and I shall only be able to supply from three to four hundred flasks after supplying my own wants. As many persons inquiring about the profits of the wine business will not be able to see Mr. Weller's letter, it may be well, perhaps, to notice part of it here. He states various results from his own experience as well as from that of others, and a profit of \$2,000 per acre is among the lowest. These estimates may appear high to some persons, but I think \$2,000 profit per acre from a vineyard in the south at 12 years old, a very fair estimate from the grape mine is planted with.\*

Yours respectfully,

J. NOYES.

*Holly Wood, Natchez, Miss., July 25, 1848.*

#### Art. IV.—CALIFORNIA, NEW-MEXICO AND THE PASSAGE BETWEEN THE ATLANTIC AND PACIFIC OCEANS.

HAVING adjusted the great questions of Oregon and California, so long distracting the popular mind, the American people are now settling themselves down, after the usual fashion, to count up their gains and their losses, and strike the balance sheet. The "pen" with them is "as powerful as the sword," and that is *irresistible*.

Having a thousand miles of coast upon the Pacific, and three times as much upon the Atlantic, subject to our sway, we are naturally solicitous, by some process or other, to narrow the distance between the oceans, and cause them to mingle their commerce, if not their waters, by a readier passage than that through the storms of the Southern seas, or over many a granite mountain for wearisome months, through the heart of the continent itself.

In Yankee ingenuity there is that which is illimitable, and it is baffled by no combinations or difficulties whatever. That it can discourse at a thousand or five thousand miles, with the same facility and rapidity as across a chamber, and without an extra effort of breath, is a mere trifle. Our children shall throw away the telegraph as a play-thing and a bauble, with the same contempt that Jupiter's lazy, inert log was trampled upon, in days of yore, by the revellers, at first impressed with such awe of its presence.

There is, perhaps, no better mode of accounting for the extraordinary fact, that, despite of all the glorious achievements of science

\* We will supply a large number of the Reviews in which Mr. Weller's articles are contained, without charge, for general distribution, if application be made post-paid. It is thus we can extend the usefulness of our work, and perhaps elicit additional support from the friends of the cause. Of this last we are much in need.—[Ed.]



within the past few years, the moon still continues at the provoking and inapproachable distance of some two hundred and odd thousand miles, than this, that the same science has almost irresistibly demonstrated this satellite, "uninhabited and uninhabitable." Had our telescopes, on the contrary, exhibited green fields, and fertile plains, and pleasant water-courses, and broad cultivated acres, and a population evidently in want of cotton goods, clocks, ice, razor strops, and pen-knives, some of our indefatigable traders had made explorations thitherward long ago, and ten to one by a new-fangled process in galvanism, magnetism, or any other *ism*, as yet undreamed of in philosophy, because unneeded—discovered a *gap* somewhere, in space, through which a pedlar at least could find his way, and bring back to his countrymen the gladsome news, that their celestial highnesses were willing and anxious for a treaty of reciprocal amity and commerce! A colony, a revolution, annexation, becomes then but matters of course!

But we have not the time for a lengthened paper, though the subject might be regarded inexhaustible; and we have already fallen into a vein which ill comports with the gravity of the present occasion.

Our object now is, but to present a few pages upon the proposed connection between the oceans, in addition to what we have so elaborately published in previous volumes of the Review, and also, to furnish the latest and most reliable information in regard to the character, resources, etc., of New-Mexico and California.

We begin by introducing the letter of Lieut Maury to the Hon. John C. Calhoun, which the writer kindly furnished us some time ago, but which has been delayed for various reasons until now. It is too important, however, to be omitted altogether.\*

NATIONAL OBSERVATORY, *March 29, 1848.*

DEAR SIR:—I have the pleasure of sending you, as you requested I would do, a chart showing the relative distances to Monterey and the Columbia river from some of the principal points on the Atlantic coast. I have added such other information as, in my judgment, is calculated to throw light on the interesting subject, as to the best route across the country for reaching, by railroad, the Pacific coast of the United States.

I am clearly of the opinion that a railroad, through the heart of the country to the most convenient point of our Pacific coast, is greatly more in accordance with the true interests of the United States, than any route by canal or railroad that can be constructed across the narrow neck of land between North and South America.

A chief value of a railroad or canal consists in its collateral advantages, so to speak, by which I mean, the advantages which the country and the people, in the vicinity of the improvement, derive from it; such as the increased value of land and property of various kinds.

\*For various papers, with elaborate statistics in regard to the different proposed modes of communication across the continent, the reader will consult the 1st, 2d, 3d, 4th, and 5th volumes of the Commercial Review. In these papers the subject has been presented in almost every possible point of view, and by the ablest writers.

The increased value which such property has derived from the railroads and canals in the United States, exceeds, I suppose, the original cost of the works themselves. This, therefore, may be considered a permanent value attached to the property of our fellow-citizens, which no reverse of fortune, no enactment of laws, nothing but a destruction of the works themselves, can ever destroy.

A canal between the two continents would not pass through the United States territory, and consequently the citizens of the United States would derive no such collateral advantages from it, nor her statesmen the prerogative of taxing such increased value for the revenues of the country; but they would derive them abundantly from a railroad running through the heart of the Union, and connecting its Atlantic with its Pacific ports.

In this fact is included one of the many reasons which induced me to favor a railroad across the country, in preference to a canal out of the country, for connecting the two oceans.

The question, therefore is: Where shall the railroad begin on the Atlantic, and where shall it end on the Pacific?

Unfortunately, the present state of topographical information as to the several routes that have been proposed for reaching the Pacific by railroad, is not sufficient to afford a satisfactory reply to this question. I propose to consider it, therefore, only in a geographical and commercial point of view, leaving the final decision of the question to hydrographers and engineers, after they shall have made the necessary examinations and surveys.

If we continue to increase our tonnage for the next two or three years at the rate of increase for the last two or three, the shipping of the United States will then exceed that of Great Britain, and the commercial supremacy will be ours, so far, at least, as the business of fetching and carrying is concerned.

If you will examine the accompanying chart, you will observe that I have drawn, *geographically*, the dividing line of commerce between England and the Atlantic ports of the United States. Any point in this line is equi-distant from us and from England; consequently England is nearer to all places, including the ports of Europe, the Mediterranean, and of Africa north of the equator, which are to the east of that dividing line, and *geographically* speaking, therefore, can meet us on that side of it with advantage; whereas, all places on this side of that line, including her American colonies, the West Indies, and the States of Central and South America as far as the equator, are, *geographically*, more favorably situated for commerce with the United States than with England.

Now it so happens that this dividing line crosses the equator at what may be considered the great thoroughfare of vessels trading to the south of it, whether they be English or American, or whether they be bound around Cape Horn or the Cape of Good Hope. The winds are such as to make this the common and best place of crossing for all such vessels.

Consequently, *geographically* speaking, the ports of Brazil, of the Pacific Ocean, China, and the East Indies, are as convenient to the

Atlantic states of the Union as they are to England; and the merchandise of the two countries may be said to meet there precisely on equal terms.

Hitherto, the great channels of trade have led to Europe, yet, notwithstanding that the position of England is much more central than that of the United States with regard to Europe, (the vessels of the former making, in a week, voyages which it takes ours months to accomplish,) we have, under these disadvantages, never ceased to gain on our competitor, and are now about to pass her, with our ships, in the commercial race.

The coasts of Oregon and California are just beginning to feel the energy of American enterprise, and are fast filling up with our citizens. Where they go, there commerce will come. The peopling of these coasts will greatly enlarge the commercial limits of the United States; extending them from lines into a greatly elongated ellipse with its conjugate centres, one on the Pacific, the other on the Atlantic.

Having determined what port on the Pacific offers the most advantages for the commercial focus there, it will then be easy to project the major axis of this new commercial curve; for the line across the country which joins these two centres, will show, geographically, the best route for a railroad between the two oceans.

The shortest distance between two places that are not on the equator, or in the same longitude, is the arc of a great circle included between them; and this arc appears on the chart as a curve. I have drawn such curves on the chart, and called them great circle routes, because they show the route by which a traveller may go from place to place by accomplishing the smallest number of miles possible, supposing he could follow a line through the air.

You will observe that the great circle, which shows the shortest navigable route between Chili, all the ports of Peru, Ecuador, Central America and Mexico, passes so near to Monterey, that if a steamer bound from Chili to Shanghai, in China, were to pursue the shortest route which it is possible to go, she would make Cape St. Lucas, in Lower California, and might touch at San Diego, Monterey, or San Francisco, by going less than 100 miles out of her way.

But if the point of departure were Panama, then it would be 1,000 miles nearer to take the great circle via California, than to follow the straight compass course by way of the Sandwich Islands.

Monterey or San Francisco, therefore, may be regarded as the great half-way house on the commercial road between Pacific America and the Indies; and this route as the commercial circle of the Pacific Ocean.

It will be observed, that Astoria, in Oregon, occupies by no means such a central position with regard to the commerce of the world.

The line, commencing on the Pacific coast midway between Monterey and the mouth of the Columbia river, and drawn to Philadelphia, I have called the dividing line of travel between Monterey and the mouth of the Columbia. It is so drawn through the country,

that any given point on it is equi-distant from those two places, so that a traveller who starts from any point to the south of this line is nearer to Monterey; but if he start from a point to the north of it, he is nearer to the mouth of the Columbia.

TABLE OF DISTANCES FROM THE ENGLISH CHANNEL.

To Boston (shortest navigable distance for steamers).....	2,670 miles
Boston, via Albany and the lakes, to Chicago,.....	1,000
Chicago, by an air line, to Columbia river,.....	1,650
Total,.....	5,320
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From English Channel, via Philadelphia & Baltimore, to Monterey, ..	5,100
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“ English Channel to Charleston, S. C., (by water).....	3,360
“ Charleston to Memphis (rail road).....	510
“ Memphis to Monterey (air line).....	1,500
Total,.....	5,370

It thus appears that Monterey is quite as Central to the European travel as is the mouth of the Columbia, with this advantage, however: the lakes are frozen up half the year, when the Columbia route is impassable; whereas, if the travel from Europe come as far south as Philadelphia, Monterey then is the most convenient port. In truth, Chicago is quite as near to Monterey as to the mouth of the Columbia.

While Monterey is, therefore, altogether as convenient a halting-place as the Columbia river for travellers from any part of Europe to China, it has decidedly the advantage with regard to the travel from three-fourths of the states of the Union, from Brazil, the West Indies, and even from the Pacific ports of South America.

Were a railroad constructed from Memphis to Monterey, passengers from Chili, Peru, &c., on arriving at Panama, would, instead of continuing on in the Pacific to California, save two or three days by crossing over to Chagres, taking a steamer thence to New-Orleans, and up the river to the Memphis and Monterey railroad, and so across the country.

For this reason, therefore, the route to China, via Charleston or New-Orleans, to Memphis, and thence to Monterey, would, for all the travel to the south of us, be hundreds of miles nearer than the route up to Chicago and thence to the Columbia river; nearer for most of the states of the confederacy, and as near for the rest.

The harbors of San Francisco and Monterey are good, and easy of ingress and egress. The mouth of the Columbia is difficult both of ingress and egress. In 1846 Lieut. Howison, one of the most accomplished seamen in the navy, was wrecked in attempting to get to sea from that river. He chartered another vessel for himself and crew to get to Monterey, 600 miles; and though in sight of the open sea, and drawing but eight feet of water, he was detained there sixty-



two days, waiting for an opportunity to cross the bar. He was wrecked where the Exploring Expedition found water enough to float a 74.\*

Vessels in distress off the mouth of the Columbia river have been baffled in their attempts to enter, and finally, after sundry trials, have found themselves compelled to run down to the ports of California, where they are sure of getting an anchorage.

The railroad to the Pacific should terminate at that port which presents the most advantages for our future dock-yard and great naval station on the Pacific. That port is not the Columbia river, for the reasons just stated. Moreover, the mouth of that river will be overlooked by the English from the excellent ports of Vancouver's Island and the Straits of Fuca. While our crippled vessels should be standing off and on, waiting to get in, they would fall an easy prey to inferior British cruisers, which in safety could watch their movements from the Straits of Fuca.†

Monterey and San Francisco are beyond the reach of such surveillance; moreover, they are in a better climate, and are midway our line of Pacific coast. They are in a most commanding position. During the naval operations in the Pacific against Mexico, our men-of-war beat out of the harbor of San Francisco in a gale of wind, so easy is it of ingress and egress.

The harbors of California are convenient for, and are even now visited by, our whalers. Columbia river is not. There is a fleet in the Pacific of 300 vessels, engaged in this business, manned by six or eight thousand of the best seamen of America.

In money and in kind they expend, annually, among the islands

\*"The Cadboro' anchored in Baker's Bay (mouth of the Columbia river) November 17, 1846, where we remained pent up by adverse winds and a turbulent sea on the bar until the 18th January. Her master, an old seaman, had been navigating this coast and river for the last eighteen years, and his vessel drew but eight feet of water; yet in this long interval of sixty-two days he could find no opportunity of getting to sea safely. This is, in itself, a commentary upon the dangerous character of the navigation of the mouth of the Columbia."—[Report of Lieut. Niel M. Howison, U. S. N., House of Reps., 30th Congress, 1st Session, Mis. No. 29.]

†"I lay at anchor in Baker's Bay, some three hundred yards inside the Cape, from November 17, 1846, until January 18, 1847; and although we were unfortunately destitute of barometer and thermometer, we had a good opportunity of observing, during these two winter months, the wind and weather. The heavens were almost always overcast; the wind would spring up moderately at east, haul within four hours, to south-east, increasing in force and attended with rain. It would continue at this point some twenty hours, and shift suddenly in a hail storm to the south west; whence, hauling westwardly and blowing heavy, accompanied with hail and sleet, it would give us a continuance of bad weather for three or four days, and force the enormous Pacific swell to break upon the shore with terrific violence, tossing its spray over the tops of the rocks, more than two hundred feet high. A day of moderate weather, with the wind south-east, might succeed this; but before the sea on the bar would have sufficiently gone down to render it passable, a renewal of the south easter would begin, and go on around the compass as before."—[Ib.]

‡"A very snug harbor has, within a few years, been sounded out and taken possession of by the Hudson's Bay Company on the south-eastern part of Vancouver's Island. They have named it Victoria, and it is destined to become the most important British seaport contiguous to our territory. Eighteen feet water can be carried into its inmost recesses, which is a fine large basin. There is, besides, pretty good anchorage for frigates outside the basin. The Company are making this their principal shipping port; depositing, by means of small craft, during the summer, all their furs and other articles for the English market at this place, which is safe for their large ships to enter during the winter season. They no longer permit them to come into the Columbia between November and March."—[Lieut. Howison's Report.]

and ports of the Pacific not less than one million of dollars. The facilities which a railroad to California would offer in enabling them to overhaul, refit, and communicate with friends and owners in New-England, would attract this whole fleet there; and this vast amount of money would be expended in our own country and among our own citizens, instead of being disbursed, broadcast as it now is, over that wide ocean. As long as there are breakers and a bar at the mouth of the Columbia, there can be in that harbor no attraction for our whale ships.

The coast of California is a favorite place of resort for the whale. They come there to breed.

The chart has two small circles of a radius of 3,000 miles each; one drawn from the mouth of the Columbia as a centre, the other from Monterey. The latter, from its facilities of ingress or egress, is, in a geographical position to command the trade with all the places within these circles, except, perhaps, the ports of British and Russian America. For six months of the year, the difficulties in crossing the bar of the Columbia would place these places nearer to the ports of California by days, if not by weeks and months.

The chart also exhibits the geographical dividing lines of travel and of commerce. The broken line, through the Island of Japan, shows the dividing line of travel from London, by the overland route, to India, and from London through the United States, by railroad from Charleston, via. Memphis, to Monterey. The nearest route to London, from all places to the east of this line, is through the United States; but from all places to the west of it, the nearest route is through the Red Sea and across the isthmus of Suez. These lines, as before stated, are all drawn without regard to time. They are mere geographical lines, intended to represent distance in *nautical* miles. Were the railroad across the country completed, and the lines drawn with regard to time, they might probably be extended a thousand miles or two further to the westward; for much of the distance to be overcome by the overland route is by water, and there is much less rail road travelling by that route than there would be by a railroad across the United States.

A passenger can accomplish as many miles in two days by railroad as he can in a week by water.

The other broken line shows the dividing line of travel between London, via. the overland route, and this part of the country, via. the Atlantic and Pacific Rail-Road.

The continuous and most westerly line shows the dividing line of commerce between England, on the one hand, and our Pacific ports on the other, supposing the English ships to pass, as they have to do, the Cape of Good Hope.

This line exhibits many interesting facts, consequences and significations. Among them, it shows that the United States are now in a position which will soon enable them, *geographically*, to command the trade of the entire east; and that, commercially speaking, our country is in the centre of the people of the earth, and occupies a position for trade and traffic with them which no nation that ever existed has held.

Hitherto, in all parts of the world, except Europe and the West Indies, the ships of the two great competitors on the ocean have met on barely equal terms. An American and a British ship met in India, China, New-Holland, the islands of the Pacific, or the ports of South America. One was owned in London or Liverpool, the other in some one of our Atlantic ports. To reach home, they both had to pursue the same route and sail the same number of knots. But now that Oregon and California are *Americanized*, all of these ports are nearer; and the chief among them, as Bombay, Calcutta, Singapore, the ports of China, Japan, New-Holland, Australia, Polynesia and the islands of the east, many thousand miles nearer to the United States than they are to England.

TABLE OF DISTANCES BY SEA.

	To England.	To Ports of California.
From Persian Gulf,.....	11,300	10,400
" Bombay,.....	11,500	9,800
" Calcutta,.....	12,200	9,300
" Singapore,.....	12,300	7,400
" Canton,.....	13,700	6,100
" Shanghai,.....	14,400	5,400
" Jeddo,.....	15,200	4,500
" New-Guinea,.....	14,000	6,000
" N. W. point of N. Holland, ...	11,800	7,800
" N. E. " ".....	13,500	6,900
" New-Zealand,.....	13,500	5,600

From Memphis, a centre point in the immense valley of the West, and one on the great natural and national highway from the Gulf to the Lakes, the distance, via. Panama and the Sandwich Islands, (the usual route,) to China, is 11,700 miles; but by the proposed railroad to Monterey and the great circle, thence to China, the distance is but 6,900 miles.

A rail-road across the country, in this direction, would, therefore, it may be observed, shorten the present and nearest practicable route to China near 5,000 miles; it would place us before the commercial marts of *six hundred millions* of people, and enable us, geographically, to command them. Open the needful channels, unbridle commerce, leave it to the guidance of free trade, and who shall tell the commercial destiny of this country!

Rightly and wisely profiting by the advantages which are now opening to us, how long will it be before our sturdy rival will cease to be regarded as such, and when we shall have no competitor for maritime supremacy among nations!

From Monterey to Shanghai is 5,400 miles; mid-way between the two, and right on the way-side, are the Fox or Eleutian Islands, with good harbors, where a depot of coal may be made for a line of steamers, for the establishment of which, I understand, Mr. King, the Chairman of the Committee on Naval Affairs, is preparing a bill.

Coal has been found on the surface, at San Diego and San Francisco, and Vancouver's\* or Quadra Island. Formosa and the Isl-

\*Excellent coal has been found here. It is used by the English steamers, and is put on board at a mere nominal price.

ands of Japan abound with the most excellent qualities of this mineral. Supposing the vessels to be put upon this line to perform not better than the "Great Western," and that the rail-road from Charleston, on the Atlantic, be extended to Monterey, on the Pacific, you might then drink tea made in Charleston within the same month in which the leaf was gathered in China.

The passage from Shanghai, allowing a day for coaling at the Fox Islands, can be made in twenty-six days to Monterey, and thence to Charleston by rail-road, at the English rate of forty miles an hour, in less than three days.

Hydrographical surveys, and topographical reconnoissances may show San Diego or San Francisco to be the best terminus for the great rail-way. I have spoken of Monterey merely from its *geographical* position. San Francisco is a better harbor, and has, in its rear, a more fertile country. But whichever of the three be adopted, the selection will not alter the point I have been endeavoring to establish.

A rail-road from Charleston to Tennessee is already completed. Memphis is above the yellow fever region of the Mississippi Valley. It is on the great river and in a central position. A road thence would cross the head waters of the Arkansas, the Rio Grande and the Colorado. It would facilitate the overland trade with Mexico, and perhaps be the principal channel of foreign commerce for her people.

Large amounts of bullion are annually shipped from Western Mexico, in British ships of war, for England. Owing to the route, and the uncertainties as to the time when a vessel of war may come for it, it may be assumed that this bullion does not reach England for eight or ten months after it is taken from the mines; during all of which time it is of course idle. Moreover, it pays a freight of two per cent. to the British officer and Greenwich Hospital for conveying it in one of Her Majesty's vessels. Now all this bullion would come, as fast as it is taken from the mines, over this road, and would perhaps be coined in our own mints instead of those of Europe.

This route, as compared with one to the Columbia river, is most convenient for a large portion of the citizens of Pennsylvania, all of Delaware, Maryland, Ohio, Indiana, Illinois, Missouri, and all of the states to the south of them; and, considering the present routes, quite as convenient to the people of New-England as is the proposed route to the Columbia.

Besides, this last will be obstructed by snow and ice in the winter; the other never. Therefore, California offers the most convenient terminus for the commerce and business of all the states, and the most desirable one for the purposes of the general government.

There is a line of steamers already in operation from Valparaiso, Lima, Guayaquil, and the intermediate ports to Panama.

Under Mr. King's bill of the last Congress, contracts have been made for another line to connect with this, to run to the mouth of Columbia, and touch at Monterey or San Francisco. From Panama



to China, via Monterey, is 8,600 miles, and from Panama by water to Monterey, is 3,200 miles. Thus it will be observed that the steam communication has already been provided for more than one-third of the distance from Panama to China.

A railroad to Monterey, and a line of steamers thence to China, would place our citizens only half the distance that they now are, and without such rail-road must continue to be, from Japan and the Celestial Empire.

The most equitable location of a great national railway, to be constructed for the convenience of all the states, from the banks of the Mississippi to the shores of the Pacific, would be along the line which divides the United States' territory west of the Mississippi into two equal parts. The main trunk would then be in the most favorable position for receiving lateral branches from all of the states hereafter to be formed out of that territory. But the ports on the Pacific, and the character of the route, do not admit of such a location.

I have endeavored, as you suggested, to determine the geographical centre of the present *states* of the confederacy.

By one method, Memphis is as near that centre as may be; by the other it falls in Kentucky.

A line drawn diagonally across the states, from the north-east corner of Maine, to the south-west corner of Texas, intersects another from southern Florida to the north-west corner of Iowa, a few miles from Memphis; and Memphis is just about half way between the mouth of the Mississippi and the head of the Lakes, counting from Lake Michigan.

But if we take two other lines: one dividing the territory comprehended within the states from north to south, the other from east to west, they will cross each other in Kentucky, and about midway a line between Nashville and Louisville. These are the two geographical centres of the states of the Union.

Now, if we take a point about midway between Memphis and Louisville, we shall have what, for practical purposes, may be called the territorial centre of the *states* of the Union. I have marked this point A, on the chart. It is near the mouth of the Cumberland. The centre of population is about the same parallel, but considerably to the eastward.

The great circle from this territorial centre to San Francisco, crosses the Mississippi just above the mouth of the Ohio, and crosses the edge of the Kansas valley. The distance of San Francisco from the Mississippi at this point, is 1,560 *nautical*, or 1,760 statute miles.

Were the country equally favorable, this would certainly be the most advantageous, because it would be the most convenient route for all the states. It will be the business of the topographer, the engineer, and the hydrographer on the Pacific, to determine the most feasible line, and the precise location of this great national highway.

There is, however, another light in which this subject should be

considered. A rail-road to the Pacific is eminently a military road; and in the selection of a route, and a terminus for it, an eye should be had to its bearings as well to the common defence as to the general welfare.

Vancouver's Island abounds in excellent harbors. Coal of superior quality has recently been found there, cropping out in great quantities on the surface. The English steamers on that coast use it, and pronounce it excellent. The *Cormorant* procured it at four shillings per ton, and took specimens of it to England. It is so accessible that the Indians mine it, and deliver it on board the Hudson's Bay Company's steamers at a mere nominal charge.

That island is in a position which enables the power that holds it to command the Straits of Fuca and the mouth of the Columbia more effectually, even, than Cuba, in the hands of a rival, would control the mouths of the Mississippi. By treaty, Vancouver's Island belongs to the English. In view of these facts, no one with a military eye in his head would think of fixing the terminus of the great national highway, through which we aim to control the trade of the east, under the very guns of our rival. Vancouver's Island enables England to command both the Straits of Fuca and the mouth of the Columbia.

The mouth of that river can never become a naval station of much importance to us. It is too near Vancouver's Island, which is to be the Portsmouth of England in the Pacific. Its approaches are exposed and difficult—its egress dangerous. It is too far from the ports of California and the coast to be defended.

San Francisco will probably be the centre of our naval operations there. It is in a central, and therefore commanding position. It offers many facilities which Astoria does not. Suppose Cuba belonged to Great Britain, and we were just beginning with a system of national defences for our Atlantic coast: it would be quite as reasonable to expect our ships from Pensacola to pass Havana and protect the coasts of New-York, in a war with England, as it would be to expect them to come from the Columbia river, overlooked, as it will be, by the English from Vancouver's Island, and give security to the ports and coasts of California.

Our Pacific coast is about 1000 miles in length. San Francisco is midway between its southern boundary and Vancouver's Island, and, in a military point of view, is in a position to command eight hundred of the thousand miles; whereas Puget's Sound and Columbia river, owing to the close proximity of Vancouver's Island and the dangerous bars of the river, are incapable of commanding so much as their three marine leagues each.

Respectfully, &c.,

M. F. MAURY.

HON. JOHN C. CALHOUN, *U. S. Senate Chamber.*

CALIFORNIA, ETC.

Colonel Fremont, the indefatigable explorer and chivalrous soldier, whose resignation from the army is a subject of so much regret, has lately published a map of this region, accompanied with a sketch of

the country, possessing the liveliest interest. The pamphlet has been issued from the press but a few days, and is but the pioneer of a more extensive and elaborate work upon the same subject. We design a few extracts, &c.

Colonel Fremont begins with the Sierra, a part of the great mountain range which extends from the peninsula of California to Russian America, with no other gaps than those where the Columbia and Frazer's Rivers find their passage. "That part of the range which traverses Alta California, is called the *Sierra Nevada*, dividing California into two parts, and exercises a decided influence on the climate, soil, and productions of each."

East of the Sierra Nevada, and between it and the Rocky Mountains, is an extraordinary region, termed the GREAT BASIN. "It is a singular feature: a basin of some five hundred miles diameter every way, between four and five thousand feet above the level of the sea, shut in all around by mountains, with its own system of lakes and rivers, and having no connexion whatever with the sea. Partly arid and sparsely inhabited, the general character of the GREAT BASIN is that of a desert, but with great exceptions, there being many parts of it very fit for the residence of a civilized people; and of these parts, the Mormons have lately established themselves in one of the largest and best. Mountain is the predominating structure of the interior of the Basin, with plains between—the mountains wooded and watered, the plains arid and sterile." In this GREAT BASIN are situated the vast *Salt and Utah Lakes*, besides numerous smaller bodies of water. The *Humboldt River*, within the same limits, is the most important. "This river possesses qualities which, in the progress of events, may give it both value and fame. It lies on the line of travel to California and Oregon, and is the best route now known through the Great Basin, and the one travelled by emigrants. Its direction, nearly east and west, is the right course for that travel. It furnishes a level, unobstructed way for nearly three hundred miles, and a continuous supply of the indispensable articles of water, wood, and grass. Its head is towards the Great Salt Lake, and consequently towards the Mormon settlement, which must become a point in the line of emigration to California and the lower Columbia. Its termination is within fifty miles of the base of the Sierra Nevada, and opposite the Salmon Trout river pass—a pass only seven thousand two hundred feet above the level of the sea, and less than half that above the level of the Basin, and leading into the valley of the Sacramento, some forty miles north of Nueva Helvetia. These properties give to this river a prospective value in future communications with the Pacific Ocean; and the profile view on the north of the map shows the elevations of the present travelling route, of which it is a part, from the South pass, in the Rocky Mountains, to the bay of San Francisco."

The winter of 1843, '44, within the basin, says Col. Fremont, was remarkable for the same open, pleasant weather, rarely interrupted by rain or snow. In fact, there is nothing in the climate of this great interior region, elevated as it is, and surrounded and traversed

by snowy mountains, to prevent civilized man from making it his home, and finding in its arable parts the means of a comfortable subsistence, and this the Mormons will probably soon prove, in the parts about the Great Salt Lake. The progress of their settlement is already great. On the first of April of the present year, they had 3,000 acres in wheat; seven saw and grist-mills; seven hundred houses in a fortified enclosure of sixty acres, and stock and other accompaniments of a flourishing settlement.

To the westward of the *Sierra Nevada*, and reaching to the sea, is another region of California, considered by Col. Fremont. Its breadth varies between 150 and 200 miles, and the area contained is 100,000 square miles.

West of the *Sierra Nevada*, and between that mountain and the sea, is the second grand division of California, and the only part to which the name applies in the current language of the country. It is the occupied and inhabited part, and so different in character—so divided by the mountain wall of the *Sierra* from the Great Basin above—as to constitute a region to itself, with a structure and configuration—a soil, climate, and productions—of its own; and as northern Persia may be referred to as some type of the former, so may Italy be referred to as some point of comparison for the latter. North and south, this region embraces about ten degrees of latitude—from  $32^{\circ}$ , where it touched the peninsula of California, to  $42^{\circ}$ , where it bounds on Oregon. East and west, from the *Sierra Nevada* to the sea, it will average, in the middle parts, 150 miles; in the northern parts 200—giving an area of above one hundred thousand square miles. Looking westward from the summit of the *Sierra*, the main feature presented is the long, low, broad valley of the Joaquin and Sacramento rivers—the two valleys forming one—five hundred miles long and fifty broad, lying along the base of the *Sierra*, and bounded to the west by the low coast range of mountains, which separates it from the sea. Long dark lines of timber indicate the streams, and bright spots mark the intervening plains. Lateral ranges, parallel to the *Sierra Nevada* and the coast, make the structure of the country, and break it into a surface of valleys and mountains—the valleys a few hundred, and the mountains two to four thousand feet above the sea. These form greater masses, and become more elevated in the north, where some peaks, as the Shastl, enter the regions of perpetual snow. Stretched along the mild coast of the Pacific, with a general elevation in its plains and valleys of only a few hundred feet above the level of the sea—and backed by the long and lofty wall of the *Sierra*—mildness and geniality may be assumed as the characteristic of its climate. The inhabitant of corresponding latitudes on the Atlantic side of this continent, can with difficulty conceive of the soft air and southern productions under the same latitudes in the maritime region of Upper California. The singular beauty and purity of the sky in the south of this region is characterised by Humboldt as a rare phenomenon, and all travellers realise the truth of his description.

The present condition of the country affords but slight data for



forming correct opinions of the agricultural capacity and fertility of the soil. Vancouver found, at the mission of San Buenaventura, in 1792, latitude  $34^{\circ} 16'$ , apples, pears, plums, figs, oranges, grapes, peaches and pomegranates, growing together with the plantain, banana, cocoa-nut, sugar-cane and indigo, all yielding fruit in abundance and of excellent quality. Humboldt mentions the olive-oil of California as equal to that of Andalusia, and the wine like that of the Canary Islands. At present, but little remains of the high and various cultivation which had been attained at the missions. Under the mild and paternal administration of the "*Fathers*," the docile character of the Indians was made available for labor, and thousands were employed in the fields, the orchards, and the vineyards. At present, but little of this former cultivation is seen. The fertile valleys are overgrown with wild mustard; vineyards and olive orchards, decayed and neglected, are among the remaining vestiges; only in some places do we see the evidences of what the country is capable. At San Buenaventura, we found the olive trees, in January, bending under the weight of neglected fruit; and the mission of San Luis Obispo (latitude  $35^{\circ}$ ) is still distinguished for the excellence of its olives, considered finer and larger than those of the Mediterranean.

The productions of the south differ from those of the north and of the middle. Grapes, olives and Indian corn have been its staples, with many assimilated fruits and grains. Tobacco has been recently introduced; and the uniform summer heat which follows the wet season, and is uninterrupted by rain, would make the southern country well adapted to cotton. Wheat is the first product of the north, where it always constituted the principal cultivation of the missions. This promises to be the grain-growing region of California. The moisture of the coast seems particularly suited to the potato, and to the vegetables common to the United States, which grow to an extraordinary size.

Perhaps few parts of the world can produce in such perfection so great a variety of fruits and grains as the large and various region enclosing the bay of San Francisco and drained by its waters. A view of the map will show that region and its great extent, comprehending the entire valleys of the Sacramento and San Joaquin, and the whole western slope of the Sierra Nevada. General phrases fail to give precise ideas, and I have recourse to the notes in my journal to show its climate and productions by the test of the thermometer and the state of the vegetable kingdom.

#### VALLEYS OF THE SACRAMENTO AND SAN JOAQUIN.

These valleys are one, discriminated only by the names of the rivers which traverse it. It is a single valley—a single geographical formation—near 500 miles long, lying at the western base of the Sierra Nevada, and between it and the coast range of mountains, and stretching across the head of the bay of San Francisco, with which a *delta* of twenty-five miles connects it. The two rivers,

San Joaquin and Sacramento, rise at opposite ends of this long valley, receive numerous streams, many of them bold rivers, from the Sierra Nevada, become themselves navigable rivers, flow toward each other, meet half way, and enter the bay of San Francisco together, in the region of tide-water, making a continuous water line from one end to the other.

The valley of the San Joaquin is about 300 miles long and 60 broad, between the slopes of the coast mountain and the Sierra Nevada, with a general elevation of only a few hundred feet above the level of the sea. It presents a variety of soil, from dry and unproductive to well-watered and luxuriantly fertile. The eastern (which is the fertile) side of the valley is intersected with numerous streams, forming large and very beautiful bottoms of fertile land, wooded principally with white oaks, (*quercus longiglанда*, Torr. and Frem.) in open groves of handsome trees, often five or six feet in diameter, and sixty to eighty feet high. Only the larger streams, which are fifty to one hundred and fifty yards wide, and drain the upper parts of the mountains, pass entirely across the valley, forming the *Tulare* Lakes and the San Joaquin river, which, in the rainy season, make a continuous stream from the head of the valley to the bay. The *foot hills* of the Sierra Nevada, which limit the valley, make a woodland country, diversified with undulating grounds and pretty valleys, and watered with numerous small streams, which reach only a few miles beyond the hills, the springs which supply them not being copious enough to carry them across the plains. These afford many advantageous spots for farms, making sometimes large bottoms of rich, moist land. The rolling surface of the hills presents sunny exposures, sheltered from the winds, and having a highly favorable climate and suitable soil, are considered to be well adapted to the cultivation of the grape, and will probably become the principal vine growing region of California. The uplands bordering the valleys of the large streams, are usually wooded with evergreen oaks; and the intervening plains are timbered with groves or belts of evergreen and white oaks among prairie and open land. The surface of the valley consists of level plains along the Tulare Lakes and San Joaquin river, changing into undulating and rolling ground nearer the foot hills of the mountains.

#### BAY OF SAN FRANCISCO AND DEPENDENT COUNTRY.

The bay of San Francisco has been celebrated, from the time of its first discovery, as one of the finest in the world, and is justly entitled to that character even under the seaman's view of a mere harbor. But when all the accessory advantages which belong to it—fertile and picturesque dependent country; mildness and salubrity of climate; connexion with the great interior valley of the Sacramento and San Joaquin; its vast resources for ship timber, grain and cattle—when these advantages are taken into the account, with its geographical position on the line of communication with Asia, it rises into an importance far above that of a mere harbor, and deserves a particular notice in any account of maritime California. Its latitudinal position is that of Lisbon; its climate is that of southern Italy; settle-

ments upon it for more than half a century attest its healthiness ; bold shores and mountains give it grandeur ; the extent and fertility of its dependent country give it great resources for agriculture, commerce, and population.

The bay of San Francisco is separated from the sea by low mountain ranges. Looking from the peaks of the Sierra Nevada, the coast mountains present an apparently continuous line, with only a single gap, resembling a mountain pass. This is the entrance to the great bay, and is the only water communication from the coast to the interior country. Approaching from the sea, the coast presents a bold outline. On the south, the bordering mountains come down in a narrow ridge of broken hills, terminating in a precipitous point, against which the sea breaks heavily. On the northern side, the mountain presents a bold promontory, rising in a few miles to a height of two or three thousand feet. Between these points is the strait—about one mile broad, in the narrowest part, and five miles long from the sea to the bay. Passing through this gate,\* the bay opens to the right and left, extending in each direction about 35 miles, having a total length of more than 70, and a coast of about 275 miles. It is divided, by straits and projecting points, into three separate bays, of which the northern two are called San Pablo and Suisoon bays. Within, the view presented is of a mountainous country, the bay resembling an interior lake of deep water, laying between parallel ranges of mountains. Islands, which have the bold character of shores—some mere masses of rock, and others grass covered, rising to the height of three and eight hundred feet—break its surface, and add to its picturesque appearance. Directly fronting the entrance, mountains a few miles from the shore rise about 2,000 feet above the water, crowned by a forest of the lofty cypress, which is visible from the sea, and makes a conspicuous landmark for vessels entering the bay. Behind, the rugged peak of *Mount Diavolo*, nearly 4,000 feet high, (3,770,) overlooks the surrounding country of the bay and San Joaquin. The immediate shore of the bay derives, from its proximate and opposite relation to the sea, the name of *contra costa* (counter-coast, or opposite coast.) It presents a varied character of rugged and broken hills, rolling and undulating land, and rich alluvial shores backed by fertile and wooded ranges, suitable for towns, villages, and farms, with which it is beginning to be dotted. A low alluvial bottom land, several miles in breadth, with occasional open woods of oak, borders the foot of the mountains around the southern arm of the bay, terminating on a breadth of twenty miles in the fertile valley of St Joseph, a narrow plain of rich soil, lying between ranges from two to three thousand feet high. The valley is openly wooded with groves of oak, free from underbrush, and after the spring rains covered with grass.

\* Called *Cryspylæ* (Golden gate) on the map, on the same principle that the harbor of *Byzantium* (Constantinople afterwards) was called *Chrysoceras* (golden horn.) The form of the harbor, and its advantages for commerce, (and that before it became an entrepot of eastern commerce,) suggested the name to the Greek founders of *Byzantium*. The form of the entrance into the bay of San Francisco, and its advantages for commerce, (Asiatic inclusive,) suggest the name which is given to this entrance.

Taken in connexion with the valley of San Juan, with which it forms a continuous plain, it is fifty-five miles long and one to twenty broad, opening into smaller valleys among the hills. At the head of the bay it is twenty miles broad, and about the same at the southern end, where the soil is beautifully fertile, covered in summer with four or five varieties of wild clover several feet high. In many places it is overgrown with wild mustard, growing ten or twelve feet high, in almost impenetrable fields, through which roads are made like lanes. On both sides the mountains are fertile, wooded, or covered with grasses and scattered trees. On the west it is protected from the chilling influence of the north-west winds by the *cuesta de los gatos*, (wild-cat ridge,) which separates it from the coast. This is a grassy and timbered mountain, watered with small streams, and wooded on both sides with many varieties of trees and shrubbery, the heavier forests of pine and cypress occupying the western slope. Timber and shingles are now obtained from this mountain; and one of the recently discovered quicksilver mines is on the eastern side of the mountain, near the Pueblo of San Jose. This range terminates on the south in the *Anno Nuevo* point of Monterey bay, and on the north declines into a ridge of broken hills about five miles wide, between the bay and the sea, and having the town of San Francisco on the bay shore, near its northern extremity.

Sheltered from the cold winds and fogs of the sea, and having a soil of remarkable fertility, the valley of St. Joseph (San Jose) is capable of producing in great perfection many fruits and grains which do not thrive on the coast in its immediate vicinity. Without taking into consideration the extraordinary yields which have sometimes occurred, the fair average product of wheat is estimated at fifty fold, or fifty for one sown. The mission establishments of *Santa Clara* and *San Jose*, in the north end of the valley, were formerly, in the prosperous days of the missions, distinguished for the superiority of their wheat crops.

The slope of alluvial land continues entirely around the eastern shore of the bay, intersected by small streams, and offering some points which good landing and deep water, with advantageous positions between the sea and interior country, indicate for future settlements.

The strait of *Carquines*, about one mile wide and eight or ten fathoms deep, connects the San Pablo and Suisoon bays. Around these bays smaller valleys open into the bordering country, and some of the streams have a short launch navigation, which serves to convey produce to the bay. Missions and large farms were established at the head of navigation on these streams, which are favorable sites for towns or villages. The country around the Suisoon bay presents smooth low ridges and rounded hills, clothed with wild oats, and more or less openly wooded on their summits. Approaching its northern shores from *Sonoma* it assumes, though in a state of nature, a cultivated and beautiful appearance. Wild oats cover it in continuous fields, and herds of cattle and bands of horses are scattered over low hills and partly isolated ridges, where blue mists and open-



ings among the abruptly terminating hills, indicate the neighborhood of the bay.

The *Suisoon* is connected with an expansion of the river formed by the junction of the Sacramento and San Joaquin, which enter the Francisco bay in the same latitude, nearly, as the mouth of the Tagus at Lisbon. A delta of twenty-five miles in length, divided into islands by deep channels, connects the bay with the valley of the San Joaquin and Sacramento, into the mouths of which the tide flows, and which enter the bay together as one river.

Such is the bay, and the proximate country and shores of the bay of San Francisco. It is not a mere indentation of the coast, but a little sea to itself, connected with the ocean by a defensible gate, opening out between seventy and eighty miles to the right and left, upon a breadth of ten to fifteen, deep enough for the largest ships, with bold shores suitable for towns and settlements, and fertile adjacent country for cultivation. The head of the bay is about forty miles from the sea, and there commences its connexion with the noble valleys of the San Joaquin and Sacramento.

The climate of maritime California is greatly modified by the structure of the country, and under this aspect may be considered in three divisions—the *southern*, below Point Concepcion and the Santa Barbara mountain, about latitude  $35^{\circ}$ ; the *northern*, from Cape Mendocino, latitude  $41^{\circ}$ , to the Oregon boundary; and the *middle*, including the bay and basin of San Francisco and the coast between Point Concepcion and Cape Mendocino. Of these three divisions the rainy season is longest and heaviest in the north and lightest in the south. Vegetation is governed accordingly—coming with the rains—decaying where they fail. Summer and winter, in our sense of the terms, are not applicable to this part of the country. It is not heat and cold, but wet and dry, which mark the seasons; and the winter months, instead of killing vegetation, revive it. The dry season makes a period of consecutive drought, the only winter in the vegetation of this country, which can hardly be said at any time to cease. In forests, where the soil is sheltered; in low lands of streams and hilly country, where the ground remains moist, grass continues constantly green, and flowers bloom in all the months of the year. In the southern half of the country the long summer drought has rendered irrigation necessary; and the experience of the missions, in their prosperous day, has shown that, in California, as elsewhere, the driest plains are made productive, and the heaviest crops produced by that mode of cultivation. With irrigation a succession of crops may be produced throughout the year. Salubrity and a regulated mildness characterize the climate; there being no prevailing diseases, and the extremes of heat during the summer being checked by sea-breezes during the day, and by light airs from the Sierra Nevada during the night. The nights are generally cool and refreshing, as is the shade during the hottest day.

California, below the Sierra Nevada, is about the extent of Italy, geographically considered in all the extent of Italy from the Alps to the termination of the peninsula. It is of the same length, about the

same breadth, consequently the same area, (about one hundred thousand square miles,) and presents much similarity of climate and productions. Like Italy, it lies north and south, and presents some differences of climate and productions, the effect of difference of latitude, proximity of high mountains, and configuration of the coast. Like Italy, it is a country of mountains and vallies: different from it in its internal structure, it is formed for *unity*; its large rivers being concentric, and its large valleys appurtenant to the great central bay of San Francisco, within the area of whose waters the dominating power must be found.

Geographically, the position of this California is one of the best in the world; lying on the coast of the Pacific, fronting Asia, on the line of an American road to Asia, and possessed of advantages to give full effect to its grand geographical position.

#### NEW-MEXICO.

In regard to this extensive region, we shall extract a few pages from the valuable Report made by Dr. Wislizenus, attached to the expedition of Col. Doniphan, and printed a few weeks since by order of the Senate of the United States.\*

"New Mexico is a very mountainous country, with a large valley in the middle, running from north to south, and formed by the *Rio del Norte*. The valley is generally about twenty miles wide, and bordered on the east and west by mountain chains, continuations of the Rocky Mountains, which have received here different names, as Sierra Blanca, de los Organos, Oscura, on the eastern side, and Sierra de los Grullas, de Acha, de los Mimbres, towards the west. The height of these mountains south of Santa Fe may, upon an average, be between six and eight thousand feet, while near Santa Fe, and in the more northern regions, some snow-covered peaks are seen that may rise from 10,000 to 12,000 feet above the sea. The mountains are principally composed of igneous rocks, as granite, sienite, diorit, basalt, &c. On the higher mountains excellent pine timber grows; on the lower, cedars, and sometimes oak; in the valley of the Rio Grande, mezquite.

"The main artery of New-Mexico is the Rio del Norte, the longest and largest river in Mexico. Its head waters were explored in 1807 by Captain Pike, between the 37° and 38° north latitude; but its highest sources are supposed to be about two degrees farther north, in the Rocky Mountains, near the head waters of the Arkansas and the Rio Grande, (of the Colorado of the west.) Following a generally southern direction, it runs through New-Mexico, where its principal affluent is the Rio Chamas from the west, and winds its way then in a south-eastern direction through the states of Chihuahua, Coahuila and Tamaulipas, to the Gulf of Mexico, in twenty-five degrees fifty-six minutes north latitude. Its tributaries in the latter states are the Pecos, from the north; the Conchos, Salado, Alamo, and San Juan, from the south. The whole course of the river, in a straight line, would be near 1,200 miles; but by the meandering of its lower half, it runs at least about 2,000 miles, from the region of eternal snow to the almost tropical climate of the gulf. The elevation of the river above the sea near Albuquerque, in New-Mexico, is about 4,300 feet; in El Paso del Norte about 3,800; and at Reynosa, between three and four hundred miles from its mouth, about 170 feet. The fall of its water appeared to be, between Albuquerque and El Paso, from two to three feet in a mile, and below Reynosa one foot in two miles. The fall of the river is seldom used as a motive power, except for some flour mills, which are oftener worked by mules than by water. The principal advantage which is at present derived from the river is for agriculture, by their well-managed system of irriga-

\* The reader will find a lengthy and complimentary review of this Report in the July No. of that most interesting western work, published in St. Louis, and entitled the *Western Journal*.

tion. As to its navigation in New-Mexico, I doubt very much if even canoes could be used, except perhaps during May or June, when the river is in its highest state, from the melting of the snow in the mountains. The river is entirely too shallow, and interrupted by too many sand-bars, to promise anything for navigation. On the southern portion of the river the recent exploration by Captain Sterling, of the United States steamer Major Brown, has proved that steamboats may ascend from the gulf as far as Laredo, a distance of 700 miles. Although said steamboat did not draw over two feet of water, yet the explorers of that region express their opinion, that 'by spending some \$100,000 in a proper improvement of the river above Mier, boats drawing four feet could readily ply between the mouth of the Rio Grande and Laredo.' Whenever a closer connexion between this head point of navigation and New-Mexico shall be considered, nothing would answer but a railroad, crossing from the valley of the Rio Grande to the high table land in the state of Chihuahua.

"The soil in the valley of the Rio del Norte, in New-Mexico, is generally sandy and looks poor, but by irrigation it produces abundant crops. Though agriculture is carried on in a very primitive way, with the hoe alone, or with a rough plough, made often entirely of wood, without any particle of iron, they raise large quantities of Indian corn and wheat, beans, onions, red peppers, and some fruits. The most fertile part of the valley begins below Santa Fe, along the river, and is called 'rio abajo,' or (the country) down the river. It is not uncommon there to raise two crops within one year. The general dryness of the climate, and the aridity of the soil in New Mexico, will always confine agriculture to the valleys of the water courses, which are as rare as over all Mexico—such, at least, as contain running water throughout the year. But this important defect may be remedied by Artesian wells. On several occasions I remarked on the high table-land from Santa Fe south, that in a certain depth layers of clay are found, that may form reservoirs of the sunken water-courses from the eastern and western mountain chain, which, by the improved method of boring, or Artesian wells, might easily be made to yield their water to the surface. If experiments to that effect should prove successful, the progress of agriculture in New-Mexico would be more rapid, and even many dreaded 'Jornadas' might be changed from waterless deserts into cultivated plains. But at present, irrigation from a water course is the only available means of carrying on agriculture. The irrigation is effected by damming the streams and throwing the water into larger and smaller ditches (*acequias*) surrounding and intersecting the whole cultivated land. The inhabitants of towns and villages, therefore, locate their lands together, and allot to each one a part of the water at certain periods. These common fields are generally without fences, which are less needed, as the grazing stock is guarded by herdsmen. The finest fields are generally seen on the *haciendas*, or large estates, belonging to the rich property-holders in New-Mexico. These haciendas are apparently a remnant of the old feudal system, where large tracts of land, with the appurtenances of Indian inhabitants as serfs, were granted by the Spanish crown to their vassals. The great number of human beings attached to these haciendas are, in fact, nothing more than serfs; they receive from their masters only food, lodging, and clothing, or perhaps a mere nominal pay, and are therefore kept in constant debt and dependence to their landlords; so that if old custom and natural indolence did not prevail upon them to stay with their hereditary masters, the enforcement of the Mexican laws against debtors would be sufficient to continue their servitude from generation to generation. This actual slavery exists throughout Mexico, in spite of its liberal constitution; and as long as this contradiction is not abolished, the declamations of the Mexican press against the slavery in the United States must appear as hypocritical cant.

"Besides agriculture, the inhabitants of New-Mexico pay a great deal of attention to the raising of stock, as horses, mules, cattle, sheep, and goats. Their stock is all rather of a small size, because they care very little for the improvement of the breed; but it increases very fast, and as no feeding in stables is needed in the winter, it gives them very little trouble. There are large tracts of land in New-Mexico, too distant from water to be cultivated, or in too mountainous parts, which afford, nevertheless, excellent pasturage for millions of stock during the whole year; but unfortunately here, as well as in the state of Chihuahua, the raising of stock has been crippled by the invasions of the hostile Indians, who considered themselves secret partners in the business, and annually take their share away.

"A third much neglected branch of industry in New-Mexico are the *mines*.—A great many now deserted mining places in New-Mexico prove that mining was pursued with greater zeal in the old Spanish times than at present, which may be accounted for in various ways, as the present want of capital, want of knowledge in mining, but especially the unsettled state of the country and the avarice of its arbitrary rulers. The mountainous parts of New-Mexico are very rich in gold, copper, iron, and some silver. Gold seems to be found to a large extent in all the mountains near Santa Fe, south of it in a distance of about 100 miles, as far as Gran Quivira, and north for about 120 miles up to the river Sangre de Cristo. Throughout this whole region gold dust has been abundantly found by the poorer classes of Mexicans, who occupy themselves with the washing of this metal out of the mountain streams. At present the old and the new *Placer*, near Santa Fe, have attracted most attention, and not only gold washes, but some gold mines too, are worked there. They are, so far as my knowledge extends, the only gold mines worked now in New-Mexico. But as I have made from Santa Fe an excursion there for the special purpose of examining those mines, I must refer the reader, in relation to them, to that chapter of my narrative. As to the annual amount of gold produced in New-Mexico, I am unable to give even an estimate. But as nearly all the gold of New-Mexico is bought up by the traders, and smuggled out of the country to the United States, I believe that a closer calculation of the gold produced in New-Mexico could be made in the different mints of the United States than in Mexico itself.\* Several rich silver mines were, in Spanish times, worked at Avo, at Cerrillos, and in the Nambé mountains, but none at present. Copper is found in abundance throughout the country, but principally at las Tijeras, Jemas, Abiquiu, Guadalupe de Mora, etc. I heard of but one copper mine worked at present south of the Placers. Iron, though also abundantly found, is entirely overlooked. Coal has been discovered in different localities, as in the Raton mountains, near the village of Jemez, south-west of Santa Fe, in a place south of the Placers, etc. Gypsum, common and selenite, are found in large quantities in Mexico; most extensive layers of it, I understood, exist in the mountains near Algodones, on the Rio del Norte, and in the neighborhood of the celebrated 'Salinas.' It is used as common lime for white-washing, and the crystalline or selenite instead of window glass. About four days travelling, (probably one hundred miles,) south-southeast of Santa Fe, on the high table land between the Rio del Norte and Pecos, are some extensive *salt lakes*, or '*salinas*,' from which all the salt, (muriate of soda,) used in New-Mexico is procured. Large caravans go there every year from Santa Fe in the dry season and return with as much as they can transport. They exchange, generally, one bushel of salt for one of Indian corn, or sell it for one, and even two dollars a bushel.

"Not far from these salinas the ruins of an old city are found, of the fabulous '*la Gran Quivira*.' The common report in relation to this place is, that a very large and wealthy city was once here situated, with very rich mines, the produce of which was once or twice a year sent to Spain. At one season, when they were making extraordinary preparations for transporting the precious metals, the Indians attacked them; whereupon the miners buried their treasures, worth fifty millions, and left the city together; but they were all killed except two, who went to Mexico, giving the particulars of the affair, and soliciting aid to return. But the distance being so great and the Indians so numerous, nobody would advance, and the thing was dropped. One of the two went to New-Orleans, then under the dominion of Spain, raised five hundred men and started by way of the Sabine, but was never heard of afterwards. So far the report. Within the last few years several Americans and Frenchmen have visited the place; and, although they have not found the treasure, they certify at least to the existence of an aqueduct, about ten miles in length, to the still standing walls of several churches, the sculptures of the Spanish coat of arms, and to many spacious pits, supposed to be silver mines. It was no doubt a Spanish mining town, and it is not unlikely that it was destroyed in 1630, in the general, successful insurrection of the Indians in New-Mexico against the Spaniards. Dr. Samuel G. Morton, in a late pamphlet, suggests the probability that it was originally an old Indian city, into which

\* At pages 32-3 the author says: "The annual production of gold in the two *Placers* seems to vary considerable. In some years it was estimated from \$30,000 to \$40,000 per annum; in others, from \$60,000 to \$80,000, and in latter years even as high as \$250,000 per annum."



the Spaniards, as in several other instances, had intruded themselves, and subsequently abandoned it. Further investigation, it is to be hoped, will clear up this point.

"The *climate* of New-Mexico is, of course, very different in the higher, mountainous parts, from the lower valley of the Rio del Norte; but generally taken, it is temperate, constant, and healthy. The summer heat in the valley of the river will sometimes rise to nearly 100° Fahrenheit, but the nights are always cool and pleasant. The winters are much longer and more severe than in Chihuahua, the higher mountains are always covered with snow, and ice and snow are common in Santa Fe; but the Rio del Norte is never frozen with ice thick enough to admit the passage of horses and carriages, as was formerly believed. The sky is generally clear, and the atmosphere dry. Between July and October, rains fall; but the rainy seasons are here not so constant and regular as in the southern states. Disease seems to be very little known, except some inflammations and typhoid fevers in the winter season."

"The whole *population* of New-Mexico was, in 1793, according to a census, 30,953; in 1833 it was calculated to amount to 52,360, and that number to consist of 1,200 Gumbines (native Spaniards,) 420 Creoles, 520 Mestizes of all grades, and 10,220 of Pueblo Indians. In 1842, the population was estimated at 57,026, and at present at about 70,000 souls."

"The *rulers* of New-Mexico, under the Mexican government, used to be a governor and legislative power, (junta departamental) but as the latter was more nominal than a real power, the governor was generally unrestrained, and subject only to the law of revolution, which the New-Mexicans used to administer very freely, by upsetting the gubernatorial chair as often as the whole Republic did that of the President. Governor Armijo, the last ruler of New-Mexico, before it was invaded by the Americans, has already received his full share of comment from the public press. He is one of those smart, self-confident men, who, like their prototype Santa Anna, are aware that the wheel of fortune is always turning, and that the Mexicans are a most credulous and easily deceived people; and though at present he is a fugitive from his country, and subdued, I have no doubt he will, before long, appear once more on the stage, and by some means come into power again. The judiciary power in New-Mexico has always been as dependent as the governor was independent. Besides that, the clergy, as well as the military class, had their own courts of justice. In relation to the general government of Mexico, New-Mexico has always maintained greater independence than most of the other states—partly from its distance from Mexico, and partly from the spirit of opposition in the inhabitants, who derived very little benefit from their connexion with the Republic, and would, therefore, not be taxed without an equivalent. Several times the general government tried to introduce in New Mexico the so-called *estancillo*, or the sale of tobacco in all its forms, as a monopoly of the general government; but it never succeeded. In the same way the introduction of copper coin was resisted. The loose connexion with the mother-country will aid a great deal its annexation to the United States, provided, that the latter will bestow upon it what the Mexican government never could—stability of government, safety of property and personal rights, and especially protection from the hostile Indians."

"*Santa Fe* is one of the oldest Spanish settlements in New-Mexico; its origin dates, probably as far back as the end of the sixteenth century. It lies in 35 deg., 41 min., 6 sec., north latitude, and 105 deg., 2 min., 30 sec., longitude west of Greenwich\*. Its elevation above the sea, according to my own observations, is 7,047 feet."

"*Santa Fe* lies in a direct line about twenty miles east of the Rio del Norte, in a wide plain, surrounded on all sides by mountains. The eastern mountains are the nearest; those towards the northeast, the Taos mountains, the highest; some of their snow-capped peaks are supposed to be from four to five thousand feet

\* This is the result of the most numerous astronomical observations made by Lt. Emory, of the engineer corps, during his stay in Santa Fe, and which he has kindly allowed me to refer to. The result of my own observations for latitude, made during my short sojourn in Santa Fe, differs from his but in seconds. Dr. J. Gregg had already determined it as in 35 deg. 41 min. There can, therefore, be no doubt as to the real latitude of Santa Fe. Nevertheless, all the Mexican maps have generally laid it nearly one degree farther north. This northern tendency of Mexican maps I observed on many other points where I made observations for latitude.

that human life has wonderfully improved since they were kept. The mean duration of life increased more than *five times* from 1550 to 1833; with the increase of population, and more prolonged duration of life, *happiness also increased*; though with advanced prosperity marriages became fewer and later, and thus the number of births was reduced, a greater number of infants born were preserved, and the number of adults—with whom lies the true greatness of the state—became larger. Towards the close of the 17th century, the probable duration of life was not 20 years—at the close of the 18th century it attained to 32 years—and now it has arrived to 45 years, while the real productive power of the population has increased in a much greater proportion than the increase in its actual number, and *Geneva has arrived at a high state of civilization*.

"In Prussia these measures are attended to in a mode deserving the highest commendation. Every fact relating to the health, lives, and condition of the population, is there collected with great care by a central officer at Berlin, and published for the benefit of the people. The most beneficent results have accrued from the admirably arranged statistical returns made for several years past in England. Of more than one large town, but of Liverpool especially, it was ascertained that the mortality was great, and the average age at death of the population low, whereas before, the inhabitants had boasted of their salubrity and longevity. The registration has, to them, truly proved the means of increase of health and years, after removing from their eyes the scales which blinded them to their own destruction.

"If these things are so, and of their truth there cannot remain the shadow of a doubt, it is plain that with this measure are entwined the highest earthly interests of humanity, and it belongs to the legislators of the New World, the guardians and custodians of the interests and glory of the American Republic, to consider well ere they longer postpone the adoption of a measure so essential thereto. A comparison of the duration of successive generations in England, France, Prussia, Austria, Russia, America, and other states, would throw much light on the physical condition of their respective populations, and suggest to scientific and benevolent individuals in every country, and to the governments many ways of diminishing the sufferings, and meliorating the health and condition of the people; for the longer life of a nation denotes more than it does in an individual,—a happier life—a life more exempt from sickness and infirmity—a life of greater energy and industry—of greater experience and wisdom. By these comparisons, a noble national emulation might be excited, and rival nations would read of sickness diminished, deformity banished, life saved—of victories over death and the grave, with as much enthusiasm as of victories over each other's armies in the field; and the triumph of one would not be the humiliation of the other, for in this contention none would lose territory, or honor, or blood, but all would gain strength."

## 2.—SAVANNAH.

We published, in Vol. III. of our Review, a very complete and interesting paper upon the commerce of our sister city of Savannah, and have now an opportunity of adding some further statistics from a pamphlet compiled by Joseph Bancroft, and published by order of the Common Council. By this it appears that the total population in April, 1848, was 13,573, being an increase of 2,359, or 21 per cent., since 1840. In 1810 the total population was 5,195; in 1820, 7,523; 1830, 7,773; 1840, 11,214. Increase in 38 years, 161 per cent.

In the 30 years ending 1840. Charleston increased.....	18 per cent.
or, including the dock and suburbs.....	66 "
" " " Philadelphia increased.....	137 "
" " " Boston.....	151 "
" " " Baltimore.....	157 "
" " " New-York.....	224 "
" " " New-Orleans.....	492 "

Since 1840 the whites in Savannah have increased 23, the colored 13 per cent.; and in every 100, the former are now 54 the latter 46. There are 1,702 wooden dwellings, and 223 brick; 17 wood and 265 brick store-houses. One-fifth of the houses are owned by the occupants; of the male adults about two-fifths are of foreign birth.

## COMMERCE.

Exports, 1825, cotton to foreign ports, 61,976 bags; 72,789, coastwise.	
" " " rice " " 2,154 tierces; 5,081, "	
" 1826, cotton, " " 108,486 bags; 82,094, "	
" " " rice, " " 4,978 tierces; 6,478, "	

In 1839 the total export of cotton was 199,176; rice, 21,332; in 1840, cotton 284,249; rice, 24,392; 1841, cotton, 147,280; 23,587 rice; 14,295,200 feet lumber.

## EXPORTS, YEARS ENDING SEPTEMBER.

	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Cotton to for'n ports... 142,386 bags..	193,199	130,964	182,673	77,852	119,321	55,801	
" " " coastwise.....	79,868 "	87,727	113,611	132,471	118,454	114,840	70,293
Rice to foreign ports... 5,933 tierces	10,675	10,307	11,712	5,025	10,218	7,410	
" " " coastwise.....	16,131 "	15,606	18,236	17,565	27,122	21,521	15,548
Lumber to for. ports 5,919,400 feet	5,532,750	3,731,664	3,333,616	13,365,968	4,886,425	5,544,563	
" " " coastwise.... 2,471,000 "	1,986,800	2,299,187	4,936,936	5,219,676	5,844,960	—	

In the year ending 1st April, 1848, Savannah exported to foreign ports 60,037 bushels corn; 412 bbls. turpentine; 30,000 yards osnaburgs; and imported 224,645 bushels salt; 374,992 gals. molasses; and \$62,569 in iron, pig and bar. The number of vessels arriving in the same time, were, from foreign ports, 41; and 6,925 tonnage; coastwise, 397; 99,409 tonnage. Foreign vessels from foreign ports, 51, of 23,766 tonnage; four ships with tonnage ranging from 572 to 721, are owned in Savannah, either in whole or in part; one barque, six brigs, eighteen schooners, 9 sloops, 19 steamboats.

## RECEIPTS COTTON, TEN YEARS.\*

To September 1, 1838	206,048 bales
" 1, 1839	196,618 "
" 1, 1840	295,156 "
" 1, 1841	146,273 "
" 1, 1842	228,396 "
" 1, 1843	299,173 "
" 1, 1844	243,420 "
" 1, 1845	305,742 "
" 1, 1846	189,076 "
" 1, 1847	236,629 "
1848, seven months	156,404 "

## VALUE REAL ESTATE.

1843	value, \$2,853,900	1846	value, \$3,306,734
1844	" 3,245,827	1847	" 3,492,073
1845	" 3,279,988	1848	" 3,690,000

In the ten years ending 1820, the average of deaths was 1 to 14; of average white population, in the ten years ending 1830, 1 in 17; ending 1840, 1 in 24; ending 1848, 1 in 33; a most marked improvement. The records of the black population are, unfortunately, not given in the pamphlet, though they are preserved in the registers. This is an unfortunate omission, and we beg Mr. Bancroft to send them to us.

"The growing population—the great increase of the mechanical arts—the extended use of steam as applied to mills, presses, and other useful employments—are all evidences of a healthful state of the body politic. And the increase of steam power has been so noiseless, that it has attracted the notice of but few of our citizens, and most of them will be surprised to learn that of the eighteen establishments propelled by steam, fourteen of them have been erected within the last ten years."

## 3.—MOBILE AND THE PROGRESS OF ALABAMA.

We have been suspected of some little "hostility" towards our sister city, Mobile, the Lord only knows why, as we think we have shown.

The "*Planter*" has an interesting paper on the agricultural advance of Alabama. He says, that some thirty years after the settlement, scarcely any attention was paid to the culture of other than cotton, and corn for home consumption. The latter, however, not unfrequently neglected also. Everything was merged in cotton; the log-cabin was sufficient shelter; education was disregarded; nobody had time to beautify estates with gardens or fruit-trees. It is now the reverse. In Catawba, Corsa, Talladega, Jones' Vallies, etc., the cotton product decreases, while wheat, rye, oats, corn, and stock increase. Wheat and flour are now shipped to Mobile from some of the counties.

In the strictly cotton counties the "*Planter*" traces a great improvement: With scarcely an exception, every educated planter in the counties we have named above, resides in comfortable and commodious dwellings; indeed, many of them might lay claim to a considerable degree of elegance and taste. Not only this—the grounds are laid off with taste, in which some of the more noble forest-trees have been left, interspersed with those of other regions; orchards planted out, embracing the apple, pear, peach, plum, cherry, fig, grape, &c., in fact, every comfort and appliance that denote permanency, have taken the place of the temporary improvements and careless tillage of former days. More care is bestowed upon the cotton culture, picking, ginning and packing; extensive corn-fields are planted and carefully cultivated; wheat, oats, rye, peas, &c., are raised in sufficient abundance for plantation use; horses, mules, cattle, and hogs are better cared for; fences are kept in good repair, and ditching and ploughing are conducted in such a manner as to preserve lands from wash, and increase their fertility. And what is of equal or greater consequence, an unusual degree of interest

\* Since 1844 the size of the bales have increased, on an average, 75 lbs., or 20 per cent.

is manifested by all classes for the cause of general education. There are in South Alabama at least a dozen well established and well conducted male and female academies, besides primary schools scattered everywhere. Besides these, there is our state university, which has taken a high rank as a literary institution; and St. Joseph College, in our immediate vicinity, destined to be one of the leading colleges of the South."

A writer in the same paper adverts to the stationary value of real estate in Mobile for the last ten years, whilst in Boston and Charleston it has been advancing, and he attributes it to the railroad movements in progress in those cities. He then points to the great projected railroad from Mobile to the Valley of the Ohio, and predicts for it the most invigorative influences.

Another writer, over the signature of Sumpter, after exhibiting the coal and iron resources of Mississippi, which, in some of the counties, he thinks quite considerable, remarks: "So that, if in any way, proper and judicious attention be bestowed on these recently discovered mineral resources, new cause for confidence in the Mobile and Ohio railroad project may be found in facts and circumstances not known when the enterprise was first started, and additional energy infused into those who take an interest in its successful completion, and additional arguments brought forward in its favor; while a new source of wealth, and a new field for enterprise and capital is opened to the people of Mississippi. She has the elements of manufactures in many materials and facilities; but until lately, mineral resources were entirely wanting, or very small, except, perhaps, in the extreme north-east corner; but it is now ascertained that to her facilities for producing cotton and wool, and manufacturing them, producing hides, making leather, and working it, her timber, and her facilities for making paper and other manufactures, she has also the great articles of iron and coal to quite a large extent, if not in great profusion, and is from this cause doubly prepared to reap advantage from these improvements that are made to facilitate trade and commerce."

In regard to the Mobile and Ohio Railroad, after the lengthened paper published by us a year ago, we will only add, that according to all accounts the people of Mobile are in earnest upon the subject, and determined to press it to completion: the directory has busied itself in arranging all the preliminaries for active operations at an early day. Committees have been appointed to increase the subscriptions at home, and open books in the other states interested in the enterprise—to secure competent engineers, &c. Messrs. George S. Gaines and John S. McRea have just entered upon the duties assigned them by the directory, of arranging for the right of way, procuring donations of land, &c. We learn, also, that there is every prospect that a chief engineer of reputation will be employed within a few days, when the preliminary surveys, &c., will be commenced, and prosecuted with as much vigor as is possible.

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#### 4.—HOUSTON, TEXAS.

Not having visited the city of Houston for two years, I was particularly struck with its improved appearance when there. Quite a number of fine looking brick buildings have been erected, and several others are in the course of completion. The worn and decayed frame buildings on the principal streets are giving place to more substantial substitutes, and it is gratifying to observe that the industry and enterprise of the people in the improvement of their city suffer little or no abatement from the dulness of the season. The stores in Houston are well filled with merchandise, and although business is necessarily somewhat depressed at the present time, yet all the merchants appear to look forward with confidence to a brisk and prosperous trade.—*Galveston News.*

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#### 5.—ST. LOUIS.

We have received the report for 1848, of the Mayor, Hon. John M. Krum, with accompanying documents. To show the extraordinary progress of the city, we will extract the following:



## TABULAR STATEMENT.

Years.	Census.	Assessed value of prop'ty.	Rate per centum.	Taxes assessed.	Taxes collected.	Total Revenue.
1818		1,218,390 62	40-100	\$4,873 56	\$ 700 00	\$1,307 11
1819		1,132,163 33	30-100	3,396 49	4,454 77	5,224 77
1820		1,024,440 00	35-100	3,585 54	3,486 77	4,164 58
1821		955,950 00	40-100	3,823 80	2,211 62	3,200 99
1822		956,170 00	40-100	3,824 68	2,228 44	3,435 22
1823		810,064 00	50-100	4,050 32		
1824		1,028,217 00	50-100	5,137 54	7,782 62	17,161 02
1825		788,168 00	25-100	1,970 42	486 09	347 44
1826		1,003,876 00	25-100	2,509 69	1,281 07	4,741 50
1827		1,175,380 00	25-100	2,938 45	2,108 40	11,387 22
1828		1,510,332 00	25-100	3,775 83	1,750 91	17,436 80
1829		1,906,392 00	25-000	4,765 95	3,410 62	20,960 17
1830	5,852	1,830,616 00	25-100	4,576 54	1,674 57	14,291 89
1831		2,080,062 00	16 1/2 100	3,466 77	2,880 20	18,654 28
1832		2,338,544 00	16 1/2 100	3,897 64	2,274 55	
1833	6,397	2,196,672 00	12 1/2 100	2,745 84		
1834		2,063,688 00	12 1/2 100	2,759 61	818 06	24,546 64
1835	8,316	2,221,288 00	37 1/2 100	8,337 08	3,827 16	31,595 65
1836					11,614 63	44,481 14
1837	14,253	7,425,618 00	33 1/2 100	24,752 06	22,924 83	88,206 04
1838		8,169,637 00	40-100	33,408 75	28,257 79	90,167 16
1839		7,731,260 00	50-100	39,000 55	48,738 54	140,178 87
1840		8,573,662 00	50-100	43,291 56	40,195 96	
1841		8,957,198 00	50-100	45,088 61	39,408 57	128,360 07
1842					42,113 55	136,145 04
1843		8,308,480 41	67 1/2 100	74,795 23	92,683 51	193,771 78
1844		13,989,923 30	87 1/2 100	122,411 82	116,774 19	214,809 63
1845	36,721	43,519,591 53	1 pr. ct.	145,185 91	145,672 26	243,117 13
1846		15,262,120 37	1 pr. ct.	152,021 20	143,513 31	258,556 84
1847	47,974	16,665,146 75	11-20	174,983 99	170,629 63	292,359 05

## 6.—NEW-ORLEANS IN MIDSUMMER.

August is fast hurrying away, and the sultry sun pours down his unquenching fires upon those of us who cannot off to the sea-side, the lakes or springs, or the cool shades of the country, but must endure the hot walls still. Well, we are not, at least, without philosophy! To be sure, we are spared many of the annoyances to which our travelling friends are subject, and we can perambulate without being jostled by rude crowds, or run over by carts and omnibuses. Everything is quiet and dignified; one may almost recognize every face he meets in the streets. Some little time can be afforded for social indulgence.

Rain, rain, rain!—there is no cessation to the flood! The very sluices of heaven are let loose—for weeks and months the sun has only been allowed occasional peeps to see, as it were, how we are getting on below. But he makes the most of these *interregnums*. Will there be no end of these torrents! Our country friends groan, as well they may, for their cane-fields. But the nights are beautiful still—all moonlight or starry.

We are free from epidemic. The dreadful passages of disease and death have not yet been enacted. The hospitals, and a few straggling cases in private practice, embrace all we have of fever. Shall this season escape? Alas! we fear not, from the pregnant signs exhibited.

How calm and stately has everything grown. The little knots of politicians at the street corners, or near the post-office, discourse of Taylor, Cass, and Barnburners, and yawn even in their best passages. The soldiers have all left, scarce a straggling volunteer remains to us, who have for so many months been surrounded with all the "pomp and circumstance of glorious war," and entertained at our boards its heroes. The last of them all, the man of Contreras, is by his family hearth! Even the "raw head and bloody bones" of the *Sierra Madre* invasion excites not a passing sensation.

A visit to the courts is but to dreary, dismal solitudes. Judge and jury, now, have only to look after an obdurate criminal. Our city fathers seize the occasion to pave streets and lay gas-pipes, and the trowel and the hod are in full play.

If we walk the Levee the great *Easton House* shows itself in piles of brick and mortar, and will in time rise majestic by the old father of waters. The huge

granite blocks of the *Municipality Hall* are ascending the crane, and they have erected a great guillotine-looking affair, which towers upon all around. The *University* is finishing and adorning its buildings. They are building a Catholic church and Jesuit school. Huge stores and handsome dwellings are going up all around and extending far into the suburbs. They are mounting the telegraph wires and repairing the levee. Some relief may be found in all these evidences of progress. Greater times still are in reserve for New-Orleans. Our leading clergy are away, and some of our best doctors and lawyers. Amusements there are none. Theatres closed, Opera closed. They are enlarging the St. Charles. Some negro melodists have succeeded the "model artists." Occasionally a balloon ascends on Sunday afternoon. One may at least enjoy the shell read.

The newspapers flourish, and here we are consoled that they are unsurpassed. The war being over, they look to other sources. The *Picayune's* foreign news and Paris correspondent—the spicy "neutrality," playful humor, and *progressive policy* of the *Delta* and *Crescent*; the politico-economical speculations of the *Bulletin*; the able commercial summaries of the *Times*; the admirable and unsurpassed statistics of the *Prices Current*. Then come the goss of politics—the *Courier*, *Bee*, and *National*, always full of controversy, handled with spirit and ability. We forget not the interesting *Mercury*. Nowhere can there be found a more respectable press. Our French, German and Spanish friends all have their daily sheets. We have one *monthly commercial periodical*; and a *tri-monthly Medical Review*, most highly prized by the doctors at home and abroad. Rumor predicts a revival in the fall, of the *Law Journal* and *Literary Miscellany*, which have been allowed to fall to the ground. In the country we would name those admirable *agricultural* sheets, the *Concordia Intelligencer* and the *Planter's Banner*. Nor forget we our religious press, Protestant and Catholic. In the winter there are to be lectures in the different departments of the *University*, and it is hoped that institutions will be effectually organized. An extra session of the Legislature is called in regard to school matters.

The *Historical Society* is moving slowly. It is collecting a Library. John Perkins, Esq., one of the secretaries, is now in Europe, with power to prosecute researches in regard to Louisiana. The search in Spain has so far turned up nothing.\*

\* Some time ago we clipped from the *Delta's* correspondent, we think, an extract, interesting in regard to New-Orleans literature, taken from the work of Henry Caldwell:

"The first original piece enacted in New-Orleans was called 'La Pere Indiana,' (The Indian Father,)—it was performed by a company of amateurs, at the Governor's mansion, in 1758. The second original dramatic production, and first played by a regular company at the French Theatre, was entitled, 'Les Natchez, or the Last of the Serpent Tribe.' This piece, we understand, was published. The third was written by James H. Kennicott, Esq., entitled, 'Irma, or the Prediction,' which, in competition with five others, gained the premium of \$300, offered by Mr. Caldwell;—it was produced in 1830. The fourth was written by Mr. James Rees, called, 'Washington at Valley Forge,' produced at the American Theatre on the 4th of March, 1833. The next original production was 'The Headsman,' by the same author—played 1834. Then followed 'The Mistletoe Bough,' Mr. Bannister, in 1835, produced his 'Rathanemus,' and in the same year, F. Haynes, Esq. brought out 'La Tour de Nesle,' in which Mrs. Prichard created a sensation as Margaret. 'Lucretia Borgia,' arranged and adapted to the stage by Mr. J. Rees, was played in 1836, Miss Cushman as Lucretia. On the 22d of February, 1835, your talented townsman, Mr. George W. Harby, produced his celebrated Indian play, in 5 acts, called 'Tutouona.' Mr. Harby, it appears from this work, is the author of the following productions, viz.: 'Minka,' 'The Robber Chief,' 'A 22,' 'The Gentleman in Black,' 'Stephanie,' a prize tragedy, now in the hands of the author of this work, 'Nick of the Woods,' 'The Deceiver,' &c. It also appears that several other original pieces were produced by the several authors named, and were well paid by the managers. Mr. Rees, it seems, got \$300 for dramatizing 'La Fille' for Messrs. Rowe & Russell."

In 1836, Mr. T. W. Collins, a young and talented lawyer of New-Orleans, produced a 5 act tragedy, entitled, 'The Martyr Patriots, or Louisiana in 1769.' This tragedy was printed by L. Dillard & Co., in 1836. The author of the book presented me with a copy of this play, and I have read it with much interest.

The work is interesting in such details, and contains, also, many anecdotes of actors. It gives a general history of Mr. Caldwell in his connection with the southern stage, he being in fact the founder of the drama in the South, as also his history in connection with the improvements of New-Orleans, &c. The author introduces a very interesting Biographical Sketch of Miss Jane Placide, who died in New-Orleans, May 16, 1835, and was buried in the American burying-ground, to whose memory a neat tomb is erected with this inscription:

" — — — There is not an hour  
Of day, or dreaming night, but I am with thee;  
There is not a wind but whispers o'er thy name,  
And not a flower that sleeps beneath the moon,  
But in its hues or fragrance, tells a tale  
Of thee."

But we are tired of prosing, and as the rain seems resting a moment, though the clouds are still lowering, we are off for dinner, and will see the office again some time to-morrow if nothing happens in the interim.

## MISCELLANIES.

## 1.—THE PATENT OFFICE OF OUR HOME STATISTICS.

It is a subject of gratulation that this important department of our government has been placed in the hands of a man of such wide and liberal views and indefatigable energies as Edmund Burke, and we trust he will be allowed for a long time to come to carry out the admirable system he has introduced. No mere questions of politics should ever be allowed to interfere.

Mr. Burke's last Report is a well digested and elaborate document, and presents the most interesting material for reflection and study to all interested in the industrial advances of our country. It is by far the most valuable contribution yet made by the Patent office, and will be followed by others still more perfect and admirable, if no undue parsimony be indulged by government. The volume before us embraces nearly seven hundred papers. Eighty-four of these are devoted to the patent business proper, or the extension of American ingenuity. Did space permit, we should gladly review this. The rest of the work is devoted to the statistics of agriculture and the home trade. In this department the tabular estimates of crops, and the remarks upon each, and more especially the elaborate notice of the minor products, generally overlooked, but yet important, viz, eggs, poultry, milk, butter, etc., etc., etc., are deserving of general study.

In the appendix No. 1, we have an extended treatise upon *sheep and wool*, prepared by Mr. Fleishman, formerly connected with the Patent office, and published at its request. The paper contains an account of the wool trade of Germany, as well as everything relating to the management of sheep in Europe; some remarks upon German Agricultural Schools, Conventions, etc. A number of handsome lithographs illustrate the Report. Mr. Fleishman brought from Europe specimens of the most approved wools, which Mr. Burke distributed to each of the states. Those for Louisiana have been inspected by us and deposited in the bureau of statistics.

Appendix No. 2 embraces *reports in relation to the crops* of the different states, contained in letters replying to the circular of the Patent office. No. 3 contains letters relating to the *cost of raising wheat and Indian corn* in every section of the Union. No. 4 is on *Mexican maize*; 5 culture of potatoes. No. 9 is a paper on *Cuba tobacco*, which was first translated and published in this state. Some twenty pages follow upon *silk and madder*. Appendix 14 is a treatise on *cattle raising*, from the German.

Appendix 19 exhibits great labor and ingenuity, and deserves the highest praise. It is entitled—“*Production of cereal grain in the United States in 1847—Consumption, and surplus for exportation—demands of foreign countries—foreign countries rivals of the United States—products of the labor and capital of the United States in 1847—aggregate amount of property, real and personal, in the United States, &c.*” Many elaborate extracts from this we have published in the late numbers of our Review.

Appendix 20, which concludes the work, is on the *HOME TRADE*, and excites especial interest with us. It is known that the tables and reports of the general government have only extended to the foreign movements of our commerce. The national census, if it were otherwise sufficient, is only made once in ten years. The facts that are required here can only be known adequately through the states themselves, even should the general government establish what Mr. Callionn hinted at in the last Congress, a HOME DEPARTMENT, which, we think, would be a blessing.

Will the states move in the matter? Mr. Burke urges it strenuously. He

says, in referring to the initiatory movement made the present year in Louisiana, "*It is ardently hoped that the measure may be carried out, and that the example which will thus be set by Louisiana, resulting from an enlightened view of the importance of her great interests, agricultural and commercial, will be speedily followed by the other states of the Union.*" In our July number will be found other information upon this point.

Mr. Burke has issued into every quarter of the Union a circular, soliciting information upon every point connected with our agriculture. To the special one sent to our address, we promise an answer, and hope our Louisiana friends will assist us with the necessary information. The circular solicits light particularly in regard to—

*Names and date of formation of the county or township Agricultural Society, Farmers' Club, if any, Presidents and Secretary, with P. O. address.*

*Number of members, amount paid for premium, funds, &c.*

*Names, date of formation, number of members, funds, amount of premiums, &c., of other Industrial Associations.*

*State of the weather at the planting season, while growing, and at harvest; and when practicable, the mean temperature for the months, and amount of rain which fell.*

*Prevalence of blight or insects, probable per centage of loss by them, &c.*

*Cost per bushel of raising Wheat, Indian Corn, &c.*

*Probable average consumption per individual of Wheat, &c., Indian Corn, Potatoes, Beef, &c.*

## 2.—THE SMITHSONIAN INSTITUTE.

We suppose everything in relation to the history, etc. of this Institute is now familiar to the American people. Its practical operation is only now being felt, and the Regents appear to be in earnest.

We have received two astronomical contributions which they have published, and arrangements have been made to bring out in the same manner a splendid work on the "ancient monuments of the Mississippi valley," by Messrs. Squier and Davis. A report of the whole proceedings of the Institute has been published in a volume of 200 pages, which we have read with lively interest.

By the programme we learn that the object is to "Increase and Diffuse Knowledge among Men."

1. To *increase knowledge* by stimulating researches, offering medals, publishing approved papers, and appropriating a portion of the income annually to special objects of research, under the direction of suitable persons. Among the subjects for which appropriations are to be made are named, meteorology, storms, natural history, geology, topography, etc., experimental philosophy, historical researches in America, etc., ethnological researches; *statistical inquiries*, with reference to physical, moral and political subjects.

2. To *diffuse knowledge*. By publishing a series of Reports, giving an account of the new discoveries in science, and of the changes made from year to year in all branches of knowledge not professional. By publishing separate treatises on subjects of general interest, etc., etc.

The publications to be distributed by Congress partially sold for a small price. In regard to the purchase of a library, the Regents remark:—"Catalogues of the different libraries in the United States should be procured, in order that the valuable books first purchased may be such as are not found in the United States."

## 3.—THE INSANE OF THE UNITED STATES.

Though it be very difficult to determine where sanity ends and madness begins, and if the rigid rules of mental or physiological science were applied, some of us who are walking at large would perhaps be put away for safer keeping, considering the high capers we cut at times, etc., etc. Still the cause of humanity must be attracted towards that very large class who are perhaps permanently and incurably denied the light of reason. To ameliorate their condition is worthy of the highest efforts of philanthropy.

A memorial has lately been presented to the Congress of the United States by D. L. Dix, and printed, calling for the donation of an immense body of public land for the support and protection of this unfortunate class, who are, as it were



the "wards of the nation." Without endorsing the application, we can remark that the memorial abounds in information, collected in all the states, of the most interesting, but touching and melancholy character.

NUMBER OF INSANE AND IDIOTS, FROM THE UNCORRECTED CENSUS OF 1840.

States and Territories.	White persons.		Colored.		Total.	Population.	Proportion of insane and idiots to the whole.
	Public charge.	Private charge.	Private charge.	Public charge.			
Maine.....	207...	330....	56....	38....	631....	501,793....	1 to 795
New-Hampshire.....	180....	306....	8....	11....	505....	284,574....	1 to 563
Massachusetts.....	471....	600....	27....	173....	1,271....	737,699....	1 to 580
Rhode Island.....	117....	86....	8....	5....	216....	108,830....	1 to 503
Connecticut.....	114....	384....	20....	24....	542....	309,978....	1 to 572
Vermont.....	144....	254....	9....	4....	411....	291,948....	1 to 710
New-York.....	683....	1,463....	138....	56....	2,340....	2,428,921....	1 to 1,038
New-Jersey.....	144....	225....	46....	27....	442....	373,306....	1 to 844
Pennsylvania.....	469....	1,477....	132....	55....	2,133....	1,724,033....	1 to 808
Delaware.....	22....	30....	21....	7....	80....	78,085....	1 to 976
Maryland.....	137....	263....	108....	42....	550....	470,019....	1 to 852
Virginia.....	317....	735....	327....	54....	1,433....	1,239,797....	1 to 866
North Carolina.....	152....	428....	192....	29....	801....	753,419....	1 to 940
South Carolina.....	91....	285....	121....	16....	513....	594,398....	1 to 1,158
Georgia.....	51....	243....	108....	26....	428....	691,392....	1 to 1,615
Alabama.....	39....	193....	100....	25....	357....	590,756....	1 to 1,655
Mississippi.....	14....	102....	66....	16....	198....	375,651....	1 to 1,897
Louisiana.....	6....	49....	38....	7....	100....	352,411....	1 to 3,524
Tennessee.....	103....	596....	194....	28....	851....	829,210....	1 to 974
Kentucky.....	305....	490....	132....	48....	975....	779,828....	1 to 799
Ohio.....	363....	832....	103....	62....	1,360....	1,519,467....	1 to 1,117
Indiana.....	110....	377....	47....	28....	562....	685,866....	1 to 1,290
Illinois.....	36....	177....	65....	14....	292....	476,183....	1 to 1,630
Missouri.....	42....	160....	50....	18....	270....	383,702....	1 to 1,430
Arkansas.....	9....	36....	13....	8....	66....	97,574....	1 to 1,478
Michigan.....	2....	37....	21....	5....	65....	212,267....	1 to 3,265
Florida.....	1....	9....	12....	—....	22....	54,477....	1 to 2,476
Wisconsin.....	1....	7....	3....	—....	11....	30,945....	1 to 2,813
Iowa.....	2....	5....	4....	—....	11....	43,112....	1 to 3,919
Dist Columbia.....	1....	13....	4....	3....	21....	43,712....	1 to 2,081
Total.....	4,333....	10,192....	2,103....	829....	17,457....	17,069,453....	1 to 977

#### 4.—EDITOR'S ARM CHAIR.

Our exchanges this month are of unusual excellence. We have the *Westminster Review* for July, which Messrs. Leonard Scott & Co. republish, and I. C. Morgan is the agent. It abounds in able articles. *The Literary Messenger* at Richmond, Virginia, comes freighted with pleasant literature. It is the sole southern work in this field, and is a veteran. All should sustain it. *Hunt's Merchant's Magazine* has an able Commercial Lecture, and promises a continuation of them, from an English gentleman. *The Banker's Magazine*, Baltimore, by J. Smith Homans, has an able sketch of Eli Whitney, and various statistics of currency, precious metals, exchange, etc. The merchants and bankers should all have it. *The Western Journal*, St. Louis, becomes even more interesting. Then we have *Minor's Rail Road Journal*, Philadelphia, the only work of the kind in America—the excellent *Mining Journal*, New-York—the weekly *Literary World*—the able *Medical Journals* of Charleston and New-Orleans—the *North American Review* and *Silliman's Journal*.

Senator H. Johnson, of Louisiana, sends us an unusual quantity of valuable public documents from Washington for ourselves and the Historical Society. For the latter services every Louisianian will be grateful.

From the ample shelves of Morgan, Exchange Place, and J. B. Stiel, Camp-street, we have various late publications.

Mr. Richardson, of the University of Alabama, sends us a *catalogue* of the library of that institution, prepared by him. It is a handsome work, of over two hundred pages, beautifully printed and bound, and must have caused great labor. He deserves well of the literary community for his effort. We thank him for his courtesy.

## THE LIGHT OF OTHER DAYS.

"You may break—you may ruin the vase if you will,  
But the perfume of roses will cling to it still."

MOORE.

Reader, it will not repent the gravest of us, as Horace declares, sometimes to have sported, *nec luseret*, etc., etc., or to have thrown away for the nonce, as we do now, tabular statements of crops, commodities, and commerce, to enter the field of lighter effort.—*Editor*.

On the world of poetry, and hope, and gay young life, with its giddy aspirations, that have all been swept away and submerged in the great ocean that we call the past! They mock us in the dim twilight of memory, and come flitting like fleecy summer clouds over the face of the present, to be dissipated and lost in the first rude concussion. Brighter than the brightest of the sun bow's hues, the evanescent colorings are blended and gone in the moment we would trace and define them.

Oh, bring me back—bring me back the flowers I have culled and crushed. I see such no more;—no more in the ways I wander. The odours now are rank in the compare; the blossoms shed not such soft incense; the opening blush refuses its sentiment; the petals are colorless, and the thorns have grown strong and wiry. Bring me back the beautiful past—the youth of hope and joy—the heart fluttering with each new prospect, and chasing away upon light wing the momentary intrusion of care.

Ho! ho! the faces that come peeping out from behind the curtain of the past—the bright eyes and laughing faces that seem to beckon us so witchingly, "come away, come away, you are with us no more, and we hear not your gay echos mingle with ours—you have the care-worn brow, and your tread is not so light, and the fires burn not so in your eye now, and the heart leaps not from its confines with such tumultuous swell, and the spirit is tamed—earthward and earthbent!"

"——— Ha, ha, how gaily they go,  
On, on, for the merry, merry show."

Ha! ha! ha! and those bright eyes and laughing faces come mocking us from behind the curtain of the past, and we seek to join them again, and to mingle in their familiar haunts, and to lose ourselves in the holiness which encircles them; but a hand of ice falls heavy and a grasp of steel clinches, and they go flitting dimmer, and dimmer, and dimmer, those beautiful visions of the past.

"If but a fleeting cloud obscure the sky—  
If but a beam of sober reason play,  
Lo Fancy's fairy frost-work melts away."

RODGERS.

I was of ye once, urchins, and I miss from among your numbers scarce a face I have seen beaming with delight at some rare frolic, hatched in your mischievous brains; and I could tease that old ginger-bread woman as well as the best of you, and pluck the old man's grapes from his arbor under his very eye—but the old man is in his grave now, and not a leaflet tells of the arbor's ruin. I could shout as merrily, boys, as the foremost, and in the tussle and fisty war, passed not oftener than ye with the blackened eye and the begrimed face—forerunners of a world of trouble when nightfall must bring us home. But what matter—the spring time came, and the trees were verily to be climbed for their berries, and the bird might be shot on the wing in a truant excursion beyond the forked road and the old chimnies; the top whirled as musically, and the summer breezes wafted the kite as high, and the winter's frost made the hug to leap under the vigorous stroke and old Christmas came at last, with his gay carols, and the faggots blazed as cheerfully upon the hearth, and the jest went round with the pleasant warmth, as though the world were all a holiday, as it was to us boys. And we minded not school, then, and the awful ferule in the hands of its practised master—heaven bless the advancing years of that good man, for its toils were not unmingled with sport, and the hours did roll away till we shouted bravely again upon the common! Ye were an hundred and more as I have often seen you assembled in the half ruined school house; but ye are all scattered and

gone throughout the wide world; and if so be many of you yet live, we should meet perchance as strangers, boys who have sported together so many and many a time long gone by!

"Up springs at every step to claim a tear  
Some little friendship formed and cherished here."

And then the graver academic days!—They are not so ill defined. In the old campus, and under the shady mulberries, how often met to discourse on many a theme pertaining more to aught else in the world than the coming recitation or lecture, till Tom, whose fame belongs to the college, and shall descend as an heirloom when his ghostly shadow only may glide through those halls, sounded from his belfry, and the noisy tread of feet told of a new shuffle of classes and of *our hour*. The rush then for seats, and the jostle, which many a luckless day caused exile from Professor's hall; and punishment when the breezes fanned the tall grass without, and the shaded *campus* invited to repose.

How easily recalled that excellent old *Præses*, so frail in many points, yet so generous and relenting within, and of so varied, profound, and elegant attainments. In his happiest mood, how often have we sat for hours under his eloquent voice, and minded not the time that sped. I see him with ample hand rubbing his fleshy face or holding his sides, or with that huge, round, old-fashioned eye glass, which magnified letters into giants, catching an idea from the volume before him, and elaborating and working upon it with rare power until he had fastened it from it something new and impressive. But he has gone, that worthy old *Præses*, where student and preceptor must meet in the last account.

"He tried each art, reproved each dull delay,  
Allured to brighter worlds and led the way."

How many worlds have we measured!—beyond the solar walk or milky way," whose obscure orbits baffled astronomers' ken, while the angelic choirs which swept the minstrelsy of the spheres seemed almost audible; and in the night—

"———How beautiful is night;  
A dewy freshness fills the silent air,  
Like the round ocean girdled with the sky."

In the night how often with thee, young and enthusiast astronomer, when all the sky seemed in a blaze with the glorious lamps hung out from infinity, have we flung the daring glass over its broad face from pole to pole, and in what seemed but fleecy clouds, traced new and higher glories. And thou wert all happy then, watching some ill defined comet, whose lengthened sweep threatened the stars themselves; some nebula ripening into worlds; some double or triple orb, or occultation, till "joyous day" seemed ready to chase night's damp dews from thy pale brow. And then, like Vulcan in the cave of the Cyclops, with all so plurous gasses and vile exhalations, with furnace and crucible testing the refractory metals, or searching new and untalked compound from great nature's arcana; and I could enter into the enthusiasm which guided those labors, but it has all passed from me now, and I scarce remember how the stars look, so long is it since the eye might wander thither from the day's plotting concerns.—Gone are Sirius and Procyon, the chair of Cassiope and Berenice's hair—the poetry of science is all gone for me!

Helicon and Parnassus, and the Penæus, the shades of Blissus and the Vale of Tempe—now burning with Sapphic fire, now in soft Pindaric measures melting away; or with the old Greek whom seven cities claimed, transported to Olympus to the august conclave of the Gods,

"And now Olympus' shining gates unfold,  
The Gods, with Jove, assume their thrones of gold,"

—or down into the bowels of the earth, mark Pluto's dread throne shaken by the angry strokes of the sea king:

"Deep in the dismal regions of the dead  
The infernal monarch reared his horrid head;  
Leaped from his throne, lest Neptune's arm should lay  
His dark dominions open to the day,  
And pour in light on Pluto's drear abodes,  
Abhorred by men, and dreadful even to gods"—IL. xx., 75.

Arming with Hector for the stay of Troy; fired with the fierce wrath of Achilles; weeping over Patroclus dead—

"Patroclus dead—Achilles hates to live,  
Let me revenge it on proud Hector's heart—  
Let his last spirit smoke upon my dart."—IL. xviii., 120.

Or mingling in the fierce field of war, when gods and men seemed almost breast to breast, we see Diomedes, the son of Tydeus, send howling to heaven the fierce and bloody Mars himself.

ὁ δ' ἔβραχε χάλκεος Ἀρης,  
Ὅσον τ' ἐνστάχιοι ἐπίαχον, ἢ δεκαχίλιοι  
Ἀνίρῃς ἐν πολέμῳ, Ἴριδα ζυγάγοντες Ἀρηός.  
Τὸς δ' ἄρ' ὑπὸ τρωῶς εἶλεν Ἀχαιῶς τε, Τρώας τε,  
Δείσαντας· τοσὺν ἔβραχ' Ἀρης, ἄτος πολέμοιο.

The woes of Œdipus, the passion of Medea, the soft and mellifluous strains of Tully, poured out in defence of the good old Archias—

"*Si quid est in me ingenii, Iudices, quod sentio quam sit exiguum; aut si qua exercitatio dicendi, in qua me non infeliter esse versatum; aut si huic rei ratio aliqua, at optimarum artium studio ac disciplina profecta, a qua ego nullum confiteor etatis mea tempus abhorruisse: earum rerum omnium, vel in primis hic Licinius fructum a me repetere prope suo jure debet.*"

His fierce ire and denunciation of the traitor Cataline; or those resistless torrents which bore down everything before them—the thunder and lightnings which blasted the enemies of Greece, and were heard against Macedon and the all-puissant throne of Artaxerxes!

Μα τοὺς ἐν Μαραθῶ.

Our worthy friend and guide in these classic fields—be the Gods propitious if you still climb Olympus.

There were rare times in the uppermost halls of that old college, and I think they were consecrated to Clio, and if memory be not doubly treacherous, the very night is retained which drew together the practised disputants. What a tale could those ancient halls tell of fierce rencontre, when "Greek meet Greek," and all the heroic ran mad in the mazes of metaphor and the fire of declamation, drawn from the ample storehouses of Paley, Dugald Stuart, Tytler; and if I err not again, we did indeed sometimes adventure within those ponderous tomes which lie mouldering still as they did then in the old library adjoining, defying even sacrilege to disturb the religious awe of their presence. Nor have we always heard higher oratory than within those halls of Clio—the wit, the sarcasm, the innocent, but rich humor, the pathos, the occasional impetuosity. I have thee in my mind, who discoursed so beautifully of the "Oratory" and the "Genius," in his own person so well represented; who did sing—

"We may not linger; we have run  
Our pleasant, though too fleeting race!  
We must be gone—  
Others press on,  
To fill our scarce relinquished place!"

Mark we not the easy and graceful elocution, the mellifluous flow of fine turned periods, which in the Son so well reproduced the honored Sire. Nor will easily be forgotten, the formal, affected, yet always accurate, logical, often profound deductions of him who, however he might have provoked a smile by his conceits, challenged even high regard for his intellect. I pass these over and others little inferior which come clustering round. And thy quaint humor and endless jest, good John, which did indite diatribes upon us all in dove-tailed verse; we remember that our unfortunate *frock* did once catch it at thy hands. For "clad in rusty black" were we then, and "not laurel crowned;" and in our fancy's highest flights it was but apropos from the poet—

"See proud philosophy with b—s torn."

Yet I cannot draw the curtain, so seductive are the figures which would show themselves. Who of all that class can forget thee, my old friend, with the Castilian eye and countenance. If rare sport were to be had thou wert never far away. We never accused you of meddling much with grave text books, or of unravelling the metaphysical mazes of Professor's lecture. Oh no! You had much faith, too, as I remember, and will do you this justice, for it never entered into your mind to verify by the records the orthodoxy of the chair. It was all the same to you, teach Duns Scotus or Peter Abelaird, and precious little did you know of either, or care for them. You it was that bought *De Officiis* for *De Oratore*, and found not the mistake till three months after, though every day the book had been opened before you in the class, and no eye seemed more intent than your own in following the readings of the learned Thebans. But fortune seemed to watch over you, and she spoilt you at last, —for it so happened you could always pass the examination, though never so ill pre-



pared, and they gave you a parchment diploma in the end, with all its great seal and dangling blue ribbons.

Once they mulcted you in the Halls of old Clio for extinguishing lights and disturbing the risables of that august conclave by the dextrous use of a quaint quizzing glass, and some villainous saltpetre, or other compound, ignited under their very olfactories. From the "one man power" you appealed, and according to custom then observed, a jury from the vicinage, of good and lawful men, were forthwith impanelled for the case. The Justice on the Bench lacked little else than the wig to look my Lord Mansfield, and never sheriff with cocked hat and trailing sword, tripping him at each step, conducted in prisoner with more dignity. Never more woe-begone prisoner! Alas, the light of the mirthful eyes of that rare sheriff and his broad laughing face; they are cold and still in death, and his spirit found the way to heaven among his country's warriors on the enemy's soil! I fail to recall the prosecuting attorney's ingenious argument, but remember that he quoted from Puffendorf, etc., which quotations proved afterwards to be but marginal notes of his own, for the occasion. I, as your retained counsel, rose late in the night, with so solemn a gravity, it seemed an "Empire's dust lay buried" there. But then remember that upon that speech, and upon your acquittal or condemnation, hung a supper in L—s's best style, to be discussed with rare gusto that very night! On such occasion one might well be eloquent. Then was I to earn my first fee, an *honorarium* more deserving the name than needy attorney ever catches from litigious client.

Of that profound effort of forensic skill, but fragments remain upon the back of an old volume:

"We meet the prosecution in their own strong hold. We deny their authorities. They rest upon a statute misinterpreted and misapplied by them; and the whole superstructure which they have erected upon it falls to the ground at the first blush of reason. Can there be a legal gentleman present ignorant of the fact that the *intention*, and not the strict phraseology of the law, is alone to be regarded. [*Here his honor removed the pen from behind his ear, and waited for the authority which we gave him at last after turning over a pile of volumes, 2 Paley, Chap. I, p. 122. Red morocco edition, which was not the one then used by the Junior class. His honor seemed satisfied, and ordered the counsel to proceed.*] The law is a dead letter when the *animus imponentis* is not taken into consideration. [The Judge here called for a Latin Dictionary, doubting about the word *animis*, but the clerk not finding it, his honor said he would consider the point hereafter, and confer with his learned brethren in the court above.] For it often happens, and indeed did happen in the very case before your honor, that the language of the law involves a very different meaning from the *quo animo* of those that framed it. To illustrate:—The statute applies to the case of extinguishing the circumambient and phosphorescent nucleus formed around the nocturnal luminary. [Here the court remarked, that as it was evident the learned counsel was about to be high flown, he relied that the jury would be on their guard, and not suffer themselves to be carried away.] Now this is declared highly penal. But take a case. It were not too great a stress of probability to imagine a conspiracy for the destruction of this very honorable society. [One of the jury expressed a doubt, if there could be sufficient object for this, but yielded on the suggestion of the foreman, that enemies had already been excited on the part of the associations of the town by the high and distinguished post occupied by that of the college.] A Rye House Plot!—a Gun Powder Plot!! [Judge, Jury, witnesses, audience, all started with the sudden vehemence of the counsel.] Imagine an engine of terrible might constructed, but of such diminutive proportions, that it might be concealed within the wick of this candle [shout of derision from the benches—Judge looks daggers at Sheriff—Sheriff cries "order"—Counsel alone unmoved,] I have a case in point infinitely more extraordinary, where an awning, manufactured by an ingenious artisan, vast enough when expanded to cover a hundred thousand men, but when folded up was capable of being passed through the eye of a cambric needle. I cite, your honor, and request the clerk to read 8 Arabian Nights 66. [The argument was triumphant.] The prisoner at the bar hears of this nefarious conspiracy at the very moment of fruition. He is seized with horror. The luminary is before him and the law. Shall he hesitate—in *quo momento pendit eternitas*—between the *quo animo* and the *quo verbo* of the law, whilst the one kills and the other maketh alive? No, gentlemen, no—never! never! the spirit of humanity would rise up and reprove; the sacred hopes of heaven, the long train of martyred heroes, and he would brave and defy, as I do at this moment, your boasted dead letter law! [Here the counsel, in a glorious burst of patriotism, snuffed the candle before him entirely out with his thumb and forefinger, which left his side of the hall in darkness.] If that be treason, make the most of it! [A learned Sergeant here profoundly referred to what Burke had said long ago of lawyers, that they were the first to "snuff the approaches of treason," or tyranny, he forgot which.]

"For if I quench thee thou flaming minister  
I can again thy former light restore;  
Should I repent—but once put out thy light.  
[pointing to the crowded audience,]  
I know not where's the Promethean heat  
That can thy life reluminate."

[The counsel sat down amid thunders of applause, but if I remember right, either the jury hung, or they hung the prisoner.]

But time passed, and the class, as classes had before, and classes have since, were assembled in commencement and scattered, with benediction, in the wide world. The immemorial custom of the parting dinner was not omitted, and the hours seemed

winged on their way to bring morning on our revels—the sentiment the song the jest, the feast of reason and the flow of soul—the speech which brought down thunders of applause, and made to go jingling over the table dishes and glasses in universal chorus. Who was it that night for it comes dreamily upon me, that referred to “*the mists of the Screw*,” made famous by Curran, and enjoined upon us the advice of St. Patrick in establishing the order?

“Each year when your octaves approach,  
In full chorus convene and let me find you.  
And when to the convent you come  
Leave your favorite temptation behind you,  
And be not a glass in your convent  
Unless on a festival found,  
And this rule to enforce I ordain it,  
One festival all the year round.”

“Long, long after,” said the speaker, evidently affected, “softened by the remembrance of those attic nights,” in which the Judge before him, Lord Avonmore, had shared, “and those reflections of the gods, spent with those admired, respected and beloved companions, over whose ashes the most precious tears of Ireland have been shed. [Here Avonmore wept.] Yes, my Lord,” continued Curran, “I see you do not forget them. I see their sacred forms passing in sad review before your memory; I see your pain and softened fancy recalling those happy meetings, where the innocent enjoyments of social mirth became expanded into the nobler warmth of social virtue, and the horizon of the board enlarged into the horizon of man. Yes, my Lord, we can remember those nights without any other regret than that they can never more return.”

“We spent them not in joys, or lust, or wine,  
But search of deep philosophy,  
With eloquence and poetry.”

What matter. In the halls of the advocate, thumping Coke, hunting down antiquated precedents, framing actions “in trespass” or “on the case,” or “chimeric bills,” which pluck out the eyes of the common law, as they do sometimes of little orphans, to prevent, perhaps, the results of a “discovery,” sacrificing to *Æsculapius*, not like Socrates, a cock, but the worthier immortals which young and inexperienced physis brings upon the altar; compounding vile drugs, or upon all wiry loops and luges, setting up anew the frail timbers of anatomy to grin horrid from its glass casement. Driving trade with keen watchfulness on the Exchange; at the Port; waiting the return of rich argosies; dreading what harm

“A wind too great might do at sea,”

and with nice calculations balancing “corn laws and foreign tariffs,” searching a/n/m/a/n/a/c and the signs of the heavens as the blossoming *gossypium* bursts over the fields, or the pregnant heads of the tall orid bend over the broad acres. There are ye all found—sad contrast of the glorious past with the tame present—whilst we alone seem to have strayed away from the glorious shades of that old *almetto*!

Ah, well, well, it is all over, and can never be recalled. Fool to linger thus around an Eden where the flaming swords deny admission. Better far the philosophy which seizes the day and silences vain regret. Once for all—

“—Farewell!!

A soul which makes us linger.”

I shall wander no more amid those shades. The hill, the landscape, and the lawn, I bid you all adieu! The progress of the pilgrim must not be staid but to indulge a brief tear or a passing emotion.

“And such is human life, so gliding on,  
It glimmers like a meteor and is gone.”

As this is one of our youthful effusions, which in manuscript piles, lumber old trunks and cabinets, we made the pilgrim Oscar, plunging in the dark and stony world of ambition and selfishness, cast away from him the memories of all the past, and of one memory infinitely dearer than the rest. Though a mere tiling of fancy, it is no bad type of the mood in which we close our paper.

Adieu! adieu! child of my day dreams and soft whispering presences of the night. I hurry away from the witchery of thy presence—the sure spells—the unerring magic—strange infatuation! I hurry away! But alas, how stricken, and wounded, and lone, and desolate—I hurry away! Thou shalt dwell here, and touch the harp, and sing joyous notes, and wake melody, and glad the hills with thy soft strains—thou shalt dwell here, beautiful one! Thou wilt not dream of the wanderer, the stranger, the pilgrim, who will dream of thee in his own wild infatuation. There is no cloud for thee, but all is sunshine, and the sweet odours of flowers will be distilled in thy path way—fair girl with the dark tresses. Away, away—I linger not—there are storms, and whirlwinds, and tempests, as well as sunshine and flowers in this world of ours—farewell!

“————— It is fit

The spell should break of this protracted dream;

I am not now

That which I have been, and my visions flit

Less palpably before me—and the glow

Which in my spirit dwelt is fluttering faint and low.”